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Adventure
On Red River

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On Red River

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BY GRANT FOREMAN

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New Haven, 1930

Indian Removal
The Emigration of the Five Civilized Tribes
Norman, University of Oklahoma Press
1932

Advancing the Frontier, 1830-1860
Norman
University of Oklahoma Press
1933

The Five Civilized Tribes
Norman, University of Oklahoma Press
1934

EDITOR OF

A Traveler in Indian Territory
The Journal of Ethan Allen Hitchcock
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Indian Justice
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Oklahoma City, 1933



General Randolph B. Marcy

Adventure On Red River

REPORT ON THE
EXPLORATION OF THE HEADWATERS OF THE RED RIVER
BY CAPTAIN RANDOLPH B. MARCY AND
CAPTAIN G. B. MCCLELLAN

Edited and Annotated
By GRANT FOREMAN



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EDITOR'S INTRODUCTION

WHEN young Randolph B. Marcy was graduated from the United States Military Academy July 1, 1832, he was commissioned second lieutenant in the Fifth Infantry, a regiment with which he was to serve among the Indians for nearly thirty years. His captaincy did not come until May 18, 1846, a few days after he had been tried on the fields of battle at Palo Alto and Resaca de la Palma. After the Mexican War he was stationed in 1848 at Fort Towson in the Choctaw Nation. In the autumn of that year the monotony of the remote post was broken by news of the gold strike in California.

During the winter fascinating accounts of that absorbing subject took precedence over all others. In every direction men were talking of the hazardous journey to that far country, and many were actively engaged in preparing for the adventure. The movement centered in Fort Smith which became a clearing house for information on the subject. Here were planned emigrant companies to be composed of residents of the vicinity and many whose arrival was anticipated from far away. The principal Fort Smith company was in the process of organization throughout the winter, and by the aid of influential friends a military escort was promised. This was facilitated by the growing demand for a survey for the purpose of discovering a railroad route from the Mississippi River to the Pacific Ocean. A combined survey and military escort for the emigrants was the result. The choice of a leader of this fascinating adventure fell easily upon the seasoned campaigner, Captain

Marcy, and he was ordered from Fort Towson to Fort Smith for that purpose.

Marcy's command, acting as escort for the Fort Smith Company of 479 California emigrants, left Fort Smith early in April, 1849. Surveying the proposed railroad route as they advanced, the expedition traveled up the south side of the Canadian River and reached Santa Fe June 28. Remaining there nearly two months, Marcy departed with his command down the Rio Grande and after separating from the California emigrants who continued to the west, Marcy turned east at Dona Ana. On his return route he passed through Texas and crossed the Red River at Preston, northwest of the present Denison. Arriving at Fort Washita November 7, the company continued across the Choctaw Nation and reached Fort Smith November 20. Marcy was thus able to report on two possible westerly railroad routes from Fort Smith. The southern route through Texas was that followed later by the first overland mail, known as the Butterfield Stage Route.

On his return Marcy resumed his command at Fort Towson, where he prepared his report of the expedition for the secretary of war. This report incorporated not only the essentials relating to the service of his escort and the survey of the railroad route, but included a large amount of interesting information touching the geography and physical features of the country and the Indians who inhabited it. The report was so interesting and valuable that Congress ordered it to be printed.¹

Captain Marcy easily established himself as the principal authority upon the subject of the Indians and

1. The report appears as part of *Senate Executive Document No. 64*, Thirty-first Congress, first session, pp. 169-233.

the country beyond the southwestern frontier, in a region little known to the white man. As the tide of emigration to California rolled across the Indian Territory, the native Indians, resentful at this intrusion, became menacing and troublesome. It was then determined to establish a military post on Marcy's California road along the Canadian River for the protection of the emigrants against possible depredations of the Comanche, Kiowa, and other prairie Indians.

There was another impelling motive behind this action of the government. With the removal from the East of the Indians known as the Five Civilized Tribes, two of them—the Creeks and Chickasaws—found the western part of the country assigned to them as their new home, occupied by these western Indians. They challenged the right of the newcomers to their ancestral domain, raided their herds, menaced their lives, and in various ways embarrassed the plans of the government to establish the eastern Indians in the region. A new fort in an advanced westerly location would serve to protect both the California emigrants and the immigrant Indians. Logically, Marcy was again chosen to select the site for a new post and establish a garrison there.

Ordered out for this purpose, Captain Marcy departed from Fort Towson with a company of his regiment that reached Fort Washita June 30, 1850. Having selected the site for the proposed new post on the California road west of Mustang Creek, Marcy proceeded to Fort Smith where, with the help of the commissary, he outfitted his command. On August 31 he departed from there with thirty-one ox-team wagons loaded with essential supplies for setting up a new army post; he

also had two pieces of ordnance, one ordnance forge, and a large number of cattle.

On account of the great heat the expedition could travel only at night. A disease known as the murrain broke out among the oxen; so many died and the heat was so intense that on August 22 he decided to travel no farther, and on the advice of his guide, Black Beaver, concerning the lack of water at the site of the proposed fort, he stopped at a point on the south bank of the Canadian River three miles north of the California Road and near the site of the present village of Byars, in the southeast part of McLain County. Here, Marcy reported, a garrison of troops would be able to protect the California emigrants from the roving Indians of the prairies. In honor of Gen. Matthew Arbuckle of Fort Smith, he named the post Camp Arbuckle. The following spring, under orders from the secretary of war, Marcy removed his command southwest to a point on Wild Horse Creek, near its junction with the Washita River, to what became known as Fort Arbuckle—about seven miles west of Davis, Oklahoma. He then laid out a road from this new post to Fort Smith over which large quantities of military supplies were freighted.²

Later in the year 1851, for the protection of the passing emigrants and settlers in Texas, Marcy was directed to escort Gen. W. G. Belknap and aid him in locating sites for army posts along the road explored by him in 1849, between the Red River and Dona Ana, Texas. In the autumn Captain Marcy, then in New York, made a long and interesting report of this tour extending

2. Grant Foreman, *Advancing the Frontier* (Norman: University of Oklahoma Press, 1933).

to forty-three pages.³ From Fort Smith he said he departed with his command over the wagon road he had constructed to Fort Arbuckle. For the first 150 miles, this road was identical with the emigrant road to Santa Fe, and the Choctaw Indians had settled it as far as 120 miles from Fort Smith. The Chickasaw Indians were moving west and settling around Fort Arbuckle, recently established for the protection it afforded against the wild Indians.

On leaving Fort Arbuckle, he said, "the road for the first six miles follows up the valley of Wild Horse Creek in a direction south (50) degrees west, when it bears a few degrees south and passes through a gap in a chain of low mountains which run nearly parallel with the course of the creek; it then enters the Cross Timbers, there twenty miles wide and composed (as at other points) of post oak and another variety of oak called 'black-jack,' generally short, crooked and scrubby, but the trees standing at such distances, that but little labour is required in clearing out a road for wagons. The soil throughout the Cross Timbers wherever I have been is mostly sandy and poor.

"At thirty-one miles from Fort Arbuckle the road emerges from the timber and enters the grand prairie, and from this point with the exception [of] here and there a spot, there is but little good timber. Six miles from the outer edge of the Cross Timbers the road crosses a small stream about fifteen feet wide called 'Mud Creek,' which is very appropriately named. On account of the soft mud in the bed of the creek I was obliged to pass up and down for nearly twenty miles

3. Marcy to the Adjutant General, November 25, 1851, *Report*, Adjutant General's Office, Old Files Division.

before I could find good crossings to all the branches. The soil and timber in the valley of this creek are good, and the water in all the branches sweet and wholesome."

Marcy continued through the future Jefferson County, Oklahoma, and with his command passed over Red River where the cattle trail later was to cross, just above the mouth of the Little Washita River in Texas. He then crossed the latter stream about three miles above its confluence with Red River, and continued through Clay County on a southwest course to the headwaters of the Brazos River. Ten miles below the crossing of that stream by the Dona Ana road, General Belknap selected a site for the fort that was to be named for him. It was ten miles above the Tawakoni village and twenty above the Caddo and Waco villages.

Marcy reported on many interesting features of western Oklahoma and adjacent territory, but was particularly interested in the Cross Timbers that, in his judgment, divided the alluvial lands of eastern Oklahoma, susceptible of cultivation, from what he called the sterile area farther west that was unsuited to agriculture. He gave interesting accounts and descriptions of the rivers—Canadian, Washita, Cache, Brazos, Colorado, and others. Disclosing much curiosity concerning the source of the Red River, a secret not yet revealed to the white man, he related information derived by him from the Indians on the subject. He was then accumulating the information and interest that was to bring to realization the next year his plans for exploration and discovery of the sources of that stream.

This report of Captain Marcy, however, was particularly concerned with accounts of the various Indian tribes, their number, habitat, habits, and customs.

His description of the Comanche and Kiowa Indians and their depredations on the people of Texas was interesting and informative; and out of the wealth of his experience and observation he offered some shrewd advice on the method of dealing with them so as to remove the temptation to steal from the Texans horses and mules which they traded for merchandise brought by the Kickapoo, Delaware, and Shawnees from Missouri. Five hundred Kickapoos, he said, had removed from Missouri a few years before, settled on the Canadian River, and then removed to the site of the future Fort Arbuckle on Wild Horse Creek; when they left to join the celebrated Seminole, Wild Cat, on the Rio Grande, Marcy selected the site abandoned by them for the establishment of Fort Arbuckle. These Kickapoos, he said, were "intelligent and brave—are well armed with good rifles which they understand the use of perfectly—are capital marksmen and very successful hunters. The name of their chief is Pah-pe-quah." He also described the Wichita and Kichai Indians living between the Canadian and Red rivers, as well as other tribes.⁴

Nearly six years had passed since Texas became part of the Union, but western Indian tribes, nominally at peace with the United States, continued their depredations on the people south of Red River, declining to notice their changed political condition. The region in which these freebooters of the prairies found security

4. Again in 1854 Marcy departed from Fort Smith in the summer, stopped a while at Fort Washita, and in command of an exploring party traveled into Texas, surveying lands for Texas Indians (*Notes taken during the expedition commanded by Capt. R. B. Marcy, U. S. A., through unexplored Texas in the Summer and Fall of 1854, by W. B. Parker, attached to the Expedition* [Philadelphia, 1856]).

and made their home, within which the Red River was believed to have its source, was as much unknown to the white people of the country as darkest Africa. This despite a number of futile attempts of exploring expeditions during the previous fifty years. .

Many considerations suggested the propriety of another exploring tour to that country: a curiosity to know something of this region, the necessity for impressing the Indian inhabitants with the sovereignty of the United States in order to curb their warlike activities, the need of a plan for the future changed condition of the country when the pressure of white settlement would force the native Indians to adopt new methods of securing a livelihood, and the desirability of achieving a more tranquil life for the immigrant Indians lately brought from the East and greater security for California and other white emigrants passing to the West.

Captain R. B. Marcy, who was then in Washington, called the attention of the adjutant general to the fact that this region had never been explored and that the only knowledge possessed of that country was derived from the Indians; that he had explored the river as high as Cache Creek, and had collected from the Indians all available information concerning the country above that point; and he asked to be given command of an exploring expedition with authority to ascend the river to its source. He believed that his acquaintance with the several bands of Comanche Indians who frequented that country, and the knowledge he possessed of their language and character, would facilitate his intercourse with them and enable him to pass without molestation through their territory, whereas from their extreme

jealousy and distrust of the motives of strangers, another officer who did not understand their dispositions might have difficulty. He proposed to outfit his expedition from the quartermaster's supplies at Fort Washita, including a brass six-pounder cannon from several at that post; and he said he would need twelve mule—or ten ox—teams.⁵

Captain Marcy's successful experience on the western frontier easily qualified him for this service, and on March 5, 1852, he was assigned to the command of the proposed expedition by the adjutant general, who the next day issued supplemental instructions to Marcy. The Captain was required to report on the military features of the country to be explored by him; the number, character, and habits of the Indians inhabiting and frequenting the country, and to collect and report everything useful or interesting in relation to its general resources, soil, climate, natural history, and geography; to ascertain whether the country bordering upon the headwaters of Red River was capable of sustaining a considerable Indian population if they should be induced or compelled to abandon their wandering habits and devote themselves to agricultural pursuits.

Marcy was instructed also to impress the Indians with the military power and the friendship of the United States, and to treat all whom he might meet with the utmost kindness; particularly to make the Indians understand that Texas was now part of the United States, and that they would be punished for offenses committed by them on citizens of the new state in the

5. Marcy to Jones, February 23 and 27, 1852, Adjutant General's Office, Old Files Division, 44 and 47 M 52.

same manner as if they lived in other parts of the Union.⁶

Captain Marcy thereupon entered upon his duties, and later submitted his report. It appears that he followed his instructions faithfully. With intelligent appreciation of all he saw and its significance in relation to impending changes which the advancing frontier and future Indian problems might bring, Captain Marcy pursued his explorations and inquiries to all available sources. With a capacity for accurate and lucid description, he submitted not only the first adequate account of the region explored by him, and the Indians he saw there, but he wrote one of the most valuable and interesting descriptions of our western frontier to be found in government annals. When submitted by the President, its importance so impressed Congress that the document was ordered to be published.⁷ Long since out of print and little known to the reading public, the Marcy report richly merits a reprinting, in order that it may be made available to all who are interested in this southwestern country and its Indians.

The volume containing the report, as produced by the public printer in 1853, includes 320 pages followed by two maps in separate folder and sixty-three plates illustrating the wide range of subjects described. Captain Marcy's journal, which alone is reproduced here, covers 117 pages of the report. The student and bibliophile may be interested in knowing something of the remainder of the volume.

There are two hundred pages of appendices containing

6. Jones to Marcy, March 6, 1852, *ibid.*

7. U. S. Senate *Executive Document* No. 54, Thirty-second Congress, second session. The report appears also as U. S. House, *Executive Document* (unnumbered), Thirty-third Congress, first session.

scientific information describing the soil, animal life, climate, geography, geology, and resources of the country traversed by Marcy's command, prepared either by members of his own staff or by scientists from a subsequent study of the large amount of material he assembled.

Members of the company were constantly occupied in the collection of data and specimens for future reference and study in order that reliable deductions might be made concerning a country then but little known. Appendix "A" consists of meteorological observations, the temperature, readings of the barometer, and observations of the wind and weather, all of which Marcy's company noted and recorded on an average of four times daily, besides remarks of a general nature touching on the subject. Appendix "B" is a table of courses and distances on their route, and "C" is a report on the minerals collected by Marcy's command. Appendix "D" includes a journal or series of remarks upon the general geology of the country passed over, made by Dr. George G. Shumard of Fort Smith, the geologist of the expedition. The large amount of geological specimens collected by him were sent to President Edward Hitchcock of Amherst College, who made an interesting report of his examination and deductions therefrom that forms the remainder of this appendix. Appendix "E", on the subject of paleontology, is a description of the species of Carboniferous and Cretaceous fossils collected by the expedition. This technical report was also made by Dr. Shumard. Appendix "F" covers the subject of zoology as exemplified by the large number of specimens collected. The list is headed by "mammals," described by Captain Marcy, who names and locates the following:

black bear, raccoon, Texan skunk, otter, civet cat, gray wolf, prairie wolf, large lobos wolf, red fox, wild cat, panther, fox squirrel, striped squirrel, flying squirrel, beaver, rabbit, jackass rabbit, small prairie rabbit, prairie dog, opossum, deer, elk, antelope, and buffalo.

The serpents collected by the expedition belonged to ten species, distributed into eight genera. They were examined and classified by S. F. Baird and C. Girard, who reported several of the snakes and lizards as theretofore unknown to science. The subject of fishes was covered also by Baird and Girard, shells by Professor C. B. Adams, orthopterous insects, arachnidians—tarantulas, scorpions, etc.—by Charles Girard.

Appendix "G" covers the subject of botany as illustrated by the large collection made by the expedition; the report on these specimens was made by the celebrated botanist, Dr. John Torrey of New York. Even the subject of ethnology was touched upon and Appendix "H" includes vocabularies of words in the languages of the Comanches and Wichitas made by Captain Marcy, with remarks by Professor W. W. Turner. This is followed by eight pages of index.

The remaining sixty-three leaves of the book contain the illustrations. The first twelve are views of places described in Marcy's journal. Most of the remainder are beautiful engravings of shells, snakes, lizards, fishes, grasshoppers, scorpions, tarantulas, and centipedes; and the final nineteen plates are beautiful reproductions of botanical specimens collected by Marcy.

As stated by Marcy, they were indeed exploring a *terra incognita*, although it is difficult to realize that across the short intervening space of time any section of this country could have been so little known. The

virginity of the field explored can only be realized by an examination of the report and the number of specimens of theretofore unknown members of the animal, mineral, and vegetable kingdoms secured. A newly discovered specimen of copper ore, found near the Wichita Mountains, was named Marcyite in honor of the Captain.

One is impressed by the meagerness of applicable data then available for identification and comparison—authentic reports of explorers and text-writers. For the field under consideration, nothing since the inadequate accounts resulting from Long's expedition of 1820 afforded any direct help. A specimen of ammonite from a Cretaceous stratum was compared with some in the collection of the American Board of Commissioners in Boston obtained by their missionaries in the Choctaw Nation. An extended discussion of the then absorbing subject of gold in the Wichita Mountains was predicated on two minute pieces embedded in quartz pebbles found in Otter Creek, and comparisons of the geological formation there were made with gold-producing areas in California and near Santa Fe. But Dr. Hitchcock thought the discovery of gypsum noted by Marcy was of much greater importance to the nation, and he discoursed at length on the subject, touching on its presence and development in other parts of the world, particularly in South America.

Before Captain Marcy's report was published he appeared before the American Statistical and Geographical Society in New York, March 22, 1853, and read a long paper describing his explorations of the preceding summer. Dr. George Bancroft, the historian, was chairman of the meeting, and the distinguished audience included a number of explorers, among whom was

Dr. Elisha Kent Kane of the expedition that in 1850 went in search of the ill-fated Sir John Franklin expedition.

The information Captain Marcy brought to his audience concerning what is now a well known area of our country in Oklahoma and Texas, was comparable in novelty and interest to reports of celebrated pioneers and explorers of remote parts of the globe. The *New York Herald* of March 23 gave it nearly a page, and headed the account "Captain Marcy's Adventures and Explorations. Important Discoveries among the Head Waters of Red river. . . . After the transaction of the ordinary business of the society, it adjourned to the chapel of the University, where the President introduced to a large and brilliant audience Capt. R. B. Marcy, of the United States army who proceeded to read a very interesting paper on his recent important exploration of the Red River country, and his own discovery of the head waters of that stream, which was received with close attention and much applause."

The modest officer prefaced his account as follows: "In submitting a paper to a society composed of gentlemen so distinguished for intelligence as those of the American Geographical and Statistical Society, a feeling of diffidence comes over me, from a want of confidence in my own abilities, such as I have seldom experienced.

"Situated as I have been for the greater portion of the last twenty years, upon our extreme Western border, and subjected to the privations incident to the life of a soldier, with but few facilities for intellectual cultivation, I have not the vanity to suppose, neither, I trust will it be expected, that any production of mine will be of a character to impress the imagination or please the fancy

of an audience such as I now see before me. I shall therefore, confine myself to a concise and unpretending narration of facts that have come under my observation; and if any effort of mine can in the smallest degree add to the fund of information already possessed by the society, I shall feel most abundantly rewarded.

"Permit me to remark, in the first place, that much of my time during the past four years has been spent on our southwestern prairies, far beyond the limits of civilization, and in the country occupied by those erratic and migratory people, the 'natives of the plains.' While among them I endeavored to observe their habits closely, and I have attentively studied their character, and shall take occasion, in the course of what I have to say, to lay before you some of the results of my observations and reflections."

Marcy told his audience about the geography, geology, and physical features of the country explored by him; but the greater part of the address related to the Indians he saw, their habits and customs. Practically all of the paper was incorporated in his report to the secretary of war.

Significant of the remoteness of the Red River country at that time was the comment of the *Herald* on the "profound anxiety which was felt last year for several months, in all parts of the country, on account of the supposed massacre of this gallant officer and his party." Reports of the "massacre" were generally accepted as true; even the war department on August 7 confirmed them on the strength of an official report from the commanding officer at Fort Arbuckle. However, on their arrival at the post, says Marcy, "we immediately dispatched letters to our friends, informing

them of our safety, and, after making the necessary arrangements for returning the escort to Fort Belknap, I set out for Washington.

"On reaching home, I learned that my father's family had been so fully convinced of the truth of the absurd rumors in regard to us that they had put on mourning attire, and a funeral sermon had been preached upon the occasion. Besides this, I had the novel satisfaction of reading in the papers several quite complimentary obituary articles upon the death of Captain Marcy."⁸

Marcy's exploration of the Red River had a profound influence on the future history of the region, and was to complicate greatly the relations of Texas and Oklahoma. The treaty with Spain of 1819, which established the boundary line between the United States and New Spain, described it as running from the Gulf of Mexico up Sabine River and north to the Red River; thence following the course of Red River up to the One Hundredth degree of west longitude; thence up that meridian north to the Arkansas River and with that stream up to its source and west to the Pacific Ocean.

No explorations having been made of the Upper Red River as Marcy says, it was not known that there were two main branches of that stream of approximately the same size which intersected the meridian marking the One Hundredth degree west. Marcy was the first to make that fact known. The treaty between the United States and the United Mexican States of January 12, 1828, with the Texan Republic of April 25, 1838, and the admission of the State of Texas into the Union March 1, 1845, were all negotiated with reference to the previously announced boundaries of that section of country,

8. Col. R. B. Marcy, *Thirty Years of Army Life on the Border*, p. 64.

with no knowledge of or reference to the confusing situation concerning the two main branches of the river, and of course no one knew which stream was in the minds of the contracting parties when the boundary was first defined.

There was an extensive area between these two branches; if the north branch was the main stream and boundary intended in the treaty of 1819, this area belonged to Texas; if the south branch, it was the property of the United States. Surveys were made before the Civil War, and later cattlemen, claiming under grants from the State of Texas, moved upon and occupied this territory. Controversies with the Federal government arose, and finally the Act of Congress of May 2, 1900, creating the Territory of Oklahoma, authorized the attorney general of the United States to bring suit in the Supreme Court of the United States against the State of Texas to determine which branch was the boundary line and whether the territory between belonged to Texas or to the new Oklahoma Territory. A vast amount of evidence was taken, making a record that is rich in historical bibliography relating to the Southwest.⁹ The Supreme Court on March 16, 1896, announced its finding, agreeing with Marcy that the south branch was the main stream and therefore the boundary between Texas and Oklahoma Territory.¹⁰ This decision gave to the future State of Oklahoma, Jackson, Greer, and Harmon counties and part of

9. *United States v. Texas*, No. 4 Original, United States Supreme Court, *Printed Record*, Vols. I-III.

10. Grant Foreman, "Red River and the Spanish Boundary in the United States Supreme Court," *Chronicles of Oklahoma*, II, 298; *United States v. Texas*, 162 United States Supreme Court Reports, p. 1.

Beckham, that otherwise would now be included in the State of Texas.

Captain Marcy later offered an interesting explanation for the fact that the Upper Red River country had remained unknown until his exploration. In 1886, he testified before the Texas Boundary Commission: "I doubt if the Prairie Dog Town River [the south or main branch of the Red River] was ever known to civilized man prior to my exploration in 1852; and if it was ever mapped before then, I am not aware of it.

"The character of the country through which this stream flows is such that travelers would have not likely passed over it when there was a much more favorable route north of the North Fork. The water in the Prairie Dog Town Branch, from its confluence with the North Fork to within 2 miles of its head spring (about 100 miles), I found so bitter and unpalatable that many of the men became sick from drinking it. But one pool of fresh water was found throughout the entire distance, and the Indians told me they never went up this stream with their families if it could be avoided, for the reason that the nauseous water frequently proved fatal to their children. Hence, it is not surprising that but little, if anything should have been known of this repulsive region before my exploration in 1852."¹¹

GRANT FOREMAN

11. Fiftieth Congress, first session, House *Executive Document No. 21*, p. 59.

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AUTHOR'S INTRODUCTION

IN submitting the following report of a reconnoissance of the country bordering upon upper Red river, it is proper to state that previous to our departure upon the expedition, we were unable to procure all the instruments adapted to the performance of such services as were required of us. We succeeded in obtaining a sextant, a mountain barometer, an aneroid barometer, an odometer, a prismatic compass, and two Fahrenheit thermometers; but could not procure a chronometer, and, in consequence, were under the necessity of making our observations with a pocket lever watch.

The latitudes given are the results of from twelve to fifteen observations of Polaris for the determination of each position. The longitudes were determined by a series of observations upon lunar distances, and are believed to be as accurate as the imperfect character of our instruments would admit.

The positions thus deduced have been corrected by frequent and careful observations of courses and distances with the compass and odometer, a record of which will be found in the appendix.

The astronomical observations were made by Captain George B. McClellan, of the engineer corps, who, in addition to the duties properly pertaining to his department, performed those of quartermaster and commissary to the command. An interesting collection of reptiles and other specimens, in alcohol, was also made under his superintendence, and put into the hands of Professors Baird and Girard, of the Smithsonian Institution, whose reports will be found in the appendix. For these and

many other important services, as well as for his prompt and efficient co-operation in whatever was necessary for the successful accomplishment of the design of the expedition, I take this opportunity of tendering warmest acknowledgment.

Dr. George G. Shumard, of Fort Smith, Arkansas, who faithfully discharged the duties of surgeon to the command, also made important contributions to the department of natural science, by collections of specimens of the rocks, minerals, soils, fossils, shells, and plants, of the different localities which we traversed; and of these, the plants were placed in the hands of Dr. John Torrey, of New York, the eminent botanist so well known to the army by his able reports on the collections of Fremont, Emory, and others.

The shells were intrusted to Professor C. B. Adams, of Amherst. His report, as presented, possesses a melancholy interest, as being almost the last scientific effort of this distinguished conchologist, whose loss science has so recently been called upon to deplore.

The specimens of rocks and minerals have been examined by President Hitchcock, of Amherst College, with important results, while copious remarks on the general geology of the country have been supplied by Dr. Shumard, who has also furnished some notes on the conchology of the route.

The minerals and soils have been analyzed by Professor C. U. Shepard, who detected among them a new species. Finally, in the hands of Dr. Benjamin F. Shumard, the fossils have yielded several novelties to science. All these reports upon the natural history of the expedition will be found detailed at length in the appendix.

The barometrical observations which are given were taken from both forms of the instruments, and exhibited a remarkable agreement until the 8th of June, when we had the misfortune to break the mountain barometer, and were obliged subsequently to depend solely upon the aneroid. This I believe to be very reliable, as it has been tested since our return by a careful comparison with several other instruments in possession of Benjamin Pike & Son, New York, and found to be in perfect order.

In order to obtain as intimate a knowledge as possible of the country over which we passed, I was necessarily absent from the train a great portion of the time while it was in motion; and during such periods the command devolved upon Lieutenant Updegraff, which, with the constant guard I deemed it necessary to keep over our animals in a country where the Indians manifested a disposition by no means friendly towards us, made his varied duties laborious, and it gives me pleasure to bear testimony to the efficient manner in which he performed them.

R. B. MARCY,
Captain 5th Infantry.

Adventure
On Red River

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EDITOR'S NOTE.—Footnotes indicated by asterisks are those which appeared in Marcy's report, *Exploration of the Red River of Louisiana, in the year 1852* (1853). Footnotes indicated by superior numerals are those supplied by the editor.

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CHAPTER I

ORDER FROM HEADQUARTERS OF THE ARMY—FAILURE
OF FORMER EXPEDITIONS IN REACHING THE
SOURCES OF RED RIVER—CAUSES OF FAILURE—
DEPARTURE FROM WASHINGTON—ARRIVAL AT
FORT BELKNAP—THE LITTLE WITCHITA—BIG
WITCHITA—DEPARTURE FROM CACHE CREEK—
COPPER ORE—INDIAN SIGNS

NEW YORK, December 5, 1852.

Col. S. Cooper, Adjutant General U. S. Army:

SIR: I have the honor herewith to submit a report of an exploration of the country embraced within the basin of Upper Red river, made in obedience to the following orders:

[Special Orders No. 33]

ADJUTANT GENERAL'S OFFICE,
WASHINGTON, March 5, 1852.

Captain R. B. Marcy, 5th Infantry, with his company as an escort, will proceed, without unnecessary delay, to make an examination of the Red river, and the country bordering upon it, from the mouth of Cache creek to its sources, according to the special instructions with which he will be furnished. On completing the exploration, Captain Marcy will proceed to Washington to prepare his report.

Brevet Captain G. B. McClellan, Corps of Engineers, is assigned to duty with this expedition.¹ Upon the completion of the field service, he will report to Brevet

1. George Brinton McClellan, born in Philadelphia December 3, 1826, was graduated from West Point at the age of nineteen and made a second

Major General Smith, the commander of the 8th department.

The necessary supplies of subsistence and quartermasters' stores will be furnished from the most convenient depots in the 7th or 8th military department.

By command of Major General Scott:

R. JONES,

Adjutant General.

BEFORE proceeding to give a detailed account of the expedition, it may be proper to remark, that during the greater portion of the three years previous to the past summer I had been occupied in exploring the district of country lying upon the Canadian river of the Arkansas, and upon the headwaters of the Trinity, Brazos, and Colorado rivers of Texas.³

During this time my attention was frequently called

lieutenant in the corps of engineers. Lieutenant of sappers, miners, and pontoniers in the War with Mexico, he was commended for gallantry at various points from Vera Cruz to Mexico City. March 6, 1852, McClellan received orders to report to Marcy as an engineer officer. Leaving Washington he proceeded by way of the Ohio, Mississippi, and Arkansas rivers and reached Fort Smith April 1; he left there April 13 and arrived at Fort Washita Sunday, April 18; with Marcy's command he performed the duties of commissary and quartermaster (Peter Smith Michie, *General McClellan* in the "Great Commander Series" [D. Appleton & Co., 1901]).

After the Mexican War, McClellan was instructor of bayonet exercise at West Point, and his *Manual*, translated from the French, became the textbook of the service. After his service as engineer for the exploring expedition headed by Captain Marcy, he became chief engineer of the Department of Texas. He served as engineer in various important assignments and resigned from the army January 16, 1857. Upon the breaking out of the Civil War he re-entered the service and soon became major general of the United States Army where he distinguished himself in numerous engagements and campaigns. On August 29, 1864, McClellan was nominated by the Democratic national convention at Chicago for the presidency and he resigned from the army November 8 of that year, to be defeated by Abraham Lincoln. He died October 29, 1885.

2. Marcy made five expeditions in all.

to the remarkable fact that a portion of one of the largest and most important rivers in the United States, lying directly within the limits of the district I had been examining, remained up to that late period wholly unexplored and unknown, no white man having ever ascended the stream to its sources. The only information we had upon the subject was derived from Indians and semi-civilized Indian traders, and was of course very unreliable, indefinite, and unsatisfactory; in a word, the country embraced within the basin of Upper Red river had always been to us a "*terra incognita*."³ Several enterprising and experienced travelers had at different periods attempted the examination of this river, but, as yet, none had succeeded in reaching its sources.

At a very early period, officers were sent out by the French government to explore Red river, but their examinations appear to have extended no further than the country occupied by the Natchitoches and Caddoes in the vicinity of the present town of Natchitoches, Louisiana. Subsequent examinations had extended our acquaintance with its upper tributaries, but we were still utterly in the dark in regard to the true geographical position of its sources.

Three years after the cession to the United States, by the First Consul of the French republic, of that vast territory then known as Louisiana, a small party, called the "Exploring expedition of Red river," consisting of Capt. Sparks, Mr. Freeman, Lieut. Humphry, and Dr. Custis, with seventeen private soldiers, two non-commissioned officers, and a black servant, embarked from Saint Catherine's landing near Natchez, Missis-

3. Marcy was yet to learn how much this *terra incognita* was to complicate the history of Texas and Oklahoma.

issippi, with instructions to ascend Red river to its sources. They descended the Mississippi, and on the 3rd of May, 1806, entered Red river, expecting to be able to ascend in their boats to the country of the Pawnee (Pique) Indians. Here it was their intention to leave their boats, and, after packing provisions on horses which they were to purchase from the Pawnees, to proceed (as expressed in their orders) *to the top of the mountains*, the distance being, as they conjectured, about three hundred miles.

It is evident from the foregoing that Red river was supposed to issue from a mountainous country, and the preparations for this expedition were made accordingly. This party encountered many difficulties and obstructions in the navigation of the river among the numerous bayous in the vicinity of the great raft, but finally overcame them all, and found themselves upon the river above this formidable obstacle. They were, however, soon met by a large force of Spanish troops, the commander of which ordered them to proceed no further; and as their numbers were too small for a thought of resistance, they were forced to turn back and abandon the enterprise.⁴

Another expedition was fitted out in 1806 by our government and placed under the command of that enterprising young traveller, Lieut. Pike, who was ordered to ascend the Arkansas river to its sources, thence to strike across the country to the head of Red river, and descend that stream to Natchitoches. After

4. This party was composed of Thomas Freeman, Peter Custis, Lieutenant Humphrey, and Capt. Richard Sparks and the soldiers mentioned. They traveled in two flat-bottomed barges and a pirogue, all of light draft. It was late in July, 1806, at a point on Red River not far from the southeast corner of the present Oklahoma that a large force of Spaniards forced the Americans to abandon their progress and return down the river (Grant Foreman, *Indians and Pioneers*, 9).

encountering many privations and intense sufferings in the deep snows of the lofty mountains about the headwaters of the Arkansas, Lieut. Pike arrived finally upon a stream running to the east, which he took to be Red river, but which subsequently proved to be the Rio Grande. Here he was taken by the governor to New Mexico and sent home by way of Chihuahua and San Antonio, thus putting a stop to his explorations.⁵

General Wilkinson, under whose orders Lieut. Pike was serving at the time, states, in a letter to him after his return, as follows: "The principal object of your expedition up the Arkansas was to discover the true position of the sources of Red river. This was not accomplished." Lieut. Pike, however, from the most accurate information he could obtain, gives the geographical position of the sources of Red river as in latitude 33° N. and longitude 104° W.

Again, in 1819-'20, Col. Long, of the U. S. Topographical Engineers, on his return from an exploration of the Missouri river and the country lying between that stream and the head of the Arkansas, undertook to descend the Red river from its sources. The Colonel, in speaking of this in his interesting report, says: "We arrived at a creek having a westerly course, which we took to be a tributary of Red river. Having travelled down its valley about two hundred miles, we fell in with a party of Indians, of the nation of 'Kaskias,' or 'Bad Hearts,' who gave us to understand that the stream along which we were travelling was Red river. We accordingly continued our march down the river several hundred miles

5. Elliott Coues, *The Expeditions of Zebulon Montgomery Pike to Headwaters of the Mississippi River, Through Louisiana Territory, and in New Spain, during the Years 1805-6-7* (New York, 1895), Vols. I-III.

further, when, to our no small disappointment, we discovered it was the Canadian of the Arkansas, instead of Red river, that we had been exploring.⁶

"Our horses being nearly worn out with the fatigue of our long journey, which they had to perform barefooted, and the season being too far advanced to admit of our retracing our steps and going back again in quest of the source of Red river with the possibility of exploring it before the commencement of winter, it was deemed advisable to give over the enterprise for the present and make our way to the settlements on the Arkansas. We were led to the commission of this mistake in consequence of our not having been able to procure a good guide acquainted with that part of the country. Our only dependence in this respect was upon Pike's map, which assigns to the headwaters of Red river the apparent locality of those of the Canadian."

Doctor James, who accompanied Colonel Long, in his journal of the expedition, says: "Several persons have recently arrived at St. Louis, in Missouri, from Santa Fe, and among others the brother of Captain Shreeves, who gives information of a large and frequented road, which runs nearly due east from that place, and strikes one of the branches of the Canadian; that, at a considerable distance south of this point, in the high plain, is the principal source of Red river.

"His account confirms an opinion we had previously formed, namely: that the branch of the Canadian explored by Major Long's party in August, 1820, has its sources near those of some stream which descends

6. When they arrived at its entrance into the Arkansas River near the present Webbers Falls, Oklahoma.

towards the west into the Rio del Norte, and consequently that some other region must contain the head of Red river." He continues:

"From a careful comparison of all the information we have been able to collect, we are satisfied that the stream on which we encamped on the 31st of August is the Rio Rajon of Humboldt, long mistaken for the sources of Red river of Natchitoches. In a region of red clay and sand, where all the streams become nearly the color of arterial blood, it is not surprising that several rivers should have received the same name; nor is it surprising that so accurate a topographer as the Baron Humboldt, having learned that a Red river rises forty or fifty miles east of Santa Fe and runs to the east, should conjecture it might be the source of Red river of Natchitoches.

"This conjecture (for it is no more) we believe to have been adopted by our geographers, who have with much confidence made their delineations and their accounts to correspond with it."

Hence it will be seen that up to this time there is no record of any traveller having reached the sources of Red river, and that the country upon the headwaters of that stream has heretofore been unexplored.⁷ The Mexicans and Indians on the borders of Mexico are in the habit of calling any river, the waters of which have a red appearance, "Rio Colorado," or Red river, and they have applied this name to the Canadian in common with several others; and as many of the prairie Indians often visit the Mexicans, and some even speak the

7. Edwin James, *Account of an Expedition from Pittsburgh to the Rocky Mountains, performed in the Years 1819 and '20 by order of the Hon. J. C. Calhoun, Sec'y of War: under the Command of Major Stephen H. Long*, Vols. I-II and Atlas (Philadelphia, 1823); same in Reuben Gold Thwaites (ed.), *Early Western Travels*, Vols. XIV, XV, XVI, XVII (Cleveland, 1904-8).

Spanish language, it is a natural consequence that they should adopt the same nomenclature for rivers, places, &c. Thus, if a traveller in New Mexico were to inquire for the head of Red river, he would most undoubtedly be directed to the Canadian, and the same would also be the case in the adjacent Indian country. These facts will account for the mistake into which Baron Humboldt was led, and it will also account for the error into which Colonel Long and Lieut. Pike have fallen in regard to the sources of the stream which we call Red river.

Dr. Gregg, in his "Commerce of the Prairies," tells us that on his way down the south bank of the Canadian his Comanche guide, Manuel (who, by-the-by, travelled six hundred miles with me upon the plains, and whom I always found reliable), pointed out to him breaks or bluffs upon a stream to the south of the Canadian, near what we ascertained to be the true position of the head of the north branch of Red river, and where it approaches within twenty-five miles of the Canadian.⁸ These bluffs he said were upon the "Rio Negro," which the Doctor supposed to be the Washita river; but after having examined that section of country, I am satisfied that the north branch of Red river must have been alluded to by the guide, as the Washita rises further to the east. It therefore seems probable that "Rio Negro" is the name which the Mexicans have applied to Red river of Louisiana.

Immediately on receipt of the foregoing order I repaired to Fort Smith, Arkansas, where the Quartermaster General had directed that transportation should

8. Josiah Gregg, *Commerce of the Prairies: or the Journal of a Santa Fe Trader*, Vols. I-II (New York, 1844; Philadelphia, 1850); same in Thwaites, *Western Travels*, Vols. XIX, XX.

be furnished me, but on arriving there I learned that nearly all the means of transportation had a short time before been transferred to the depot at Preston, Texas.⁹ Captain Montgomery, the quartermaster at Fort Smith, manifested every disposition to facilitate my movements, and supplied me with ten most excellent horses, with which I proceeded on to Preston. At this point I made a requisition upon the quartermaster for a sufficient number of teams to transport supplies of subsistence, and baggage for my command, for five months. These were promptly furnished by Bvt. Major George Wood, to whom I am under many obligations for his active and zealous cooperation in supplying me with such articles as were necessary for the expedition. With but few resources at his command, with animals that had been worked down, and, in consequence of the scarcity of grain, very poor, and with parts of old wagons much worn, he succeeded in a very few days in fitting me out with twelve ox teams that performed very good service.

As my company was at Fort Belknap,¹⁰ upon the Brazos river, one hundred and sixty miles from Preston, and as the route by way of Fort Arbuckle to the mouth of Cache creek (the initial point of my reconnoissance

9. Preston was a busy but vicious little settlement on the south side of the Red River northwest of the present Denison, Texas. Located near a ferry across the river, it was the outgrowth of the large amount of emigration passing that way to Texas and California. In 1851 and 1852 a depot for military supplies was maintained at Preston in connection with the construction of new posts on Marcy's route through Texas.

10. Fort Belknap was established in 1851 by Gen. William Goldsmith Belknap and the Fifth Infantry in what is now Young County, Texas, as part of a plan inaugurated by the government for the protection of the settlers of Texas against the Comanche and other prairie Indians. It was located on the road laid out by Captain Marcy from Fort Arbuckle to Dona Ana, Texas, in 1849.

upon Red river) is much the shortest, I determined to leave my supply train under the charge of a wagon-master to bring forward over this route, and to proceed myself to Fort Belknap and march my company over the other trail, uniting with the train at the mouth of Cache creek.

I accordingly reached Fort Belknap on the 30th of April, and on the 2nd of May left with my company, marching over the Fort Arbuckle road as far as where it intersects Red river.¹¹ As our road led us along near the valley of the Little Wichita, I took occasion to examine it more particularly than I had ever done before, and found it a much more desirable section of country than I had imagined.

The soil in the valley is very productive; the timber, consisting of overcup, white-oak, elm, hackberry, and wild china, is large and abundant, and the adjoining prairie is covered with a heavy growth of the very best grass. The stream at fifteen miles above its confluence with Red river is twenty feet wide and ten inches deep, with a rapid current, the water clear and sweet.

From the point where I first struck it, good farms could be made along the whole course of the creek to its mouth. The country adjoining is high, rolling prairie, interspersed here and there with groves of post-oak, and presents to the eye a most pleasing appearance.

From the Little Wichita we ascended Red river along the south bank, over very elevated swells of undulating prairie, for twenty-five miles, when, on the 9th, we reached the high bluffs of a large tributary called the

11. This was the road established by Captain Marcy in 1851. It crossed Red River near the present Ryan, Oklahoma.

"Big Wichita river."¹² This stream flows over a clay bed from the southwest and enters Red river about eight miles below Cache creek. It is a deep, sluggish stream, one hundred and thirty feet wide, the water at a high stage very turbid, being heavily charged with red sedimentary matter; the banks abrupt and high, and composed of indurated red clay and dark sandstone. The river is very tortuous in its course, winding from one side to the other of a valley a mile in width, covered with a luxuriant sward of nutritious mezquite grass, which affords the very best pasturage for animals.

The latitude at this place is $34^{\circ} 25' 51''$.

There are but few trees on the borders of the Big Wichita; occasionally a small grove of cotton-wood and hackberry is seen; but with this exception, there is no timber or fuel near.

The valley of the river for ten miles above the mouth (the portion I examined) is shut in by bluffs about one hundred feet high, and these are cut up by numerous ravines, in many of which we found springs of pure cold water. The water in the main stream, however, is brackish and unpalatable.

It is my impression that the Big Wichita is of sufficient magnitude to be navigable with small steamers of light draught at almost any stage of water.

In consequence of the high water in Red river, we were detained at the mouth of the Wichita until the morning of the 12th, during which time, our provisions being almost consumed, and not knowing positively when our wagon train would join us, I took two Indians with pack horses, swam the river, and started out in

12. They have been traveling in Clay County, Texas, and have arrived at the Red River opposite the southeast corner of Cotton County, Oklahoma.

quest of it. After going about twenty-five miles towards Fort Arbuckle,¹³ we struck the trail of the wagons, and following it two miles, overtook them. They had been detained several days by heavy rains, which had rendered the ground very soft, and in many places almost impassable. In consequence of this, some of the wagons had been broken, and the repairs caused a still further detention. Early on the following morning, after packing the horses with provisions, we returned to where we had left the command, and on our arrival found that the water in the river had fallen sufficiently to admit of fording. Accordingly, on the morning of the 12th, during a violent rain, we commenced the crossing, which was anything but good, as the quicksand in the bed of the river was such as to make it necessary to keep the wagons in constant motion. The moment they stopped, the wheels would sink to the axles, requiring much force to extricate them. By placing a number of men upon each side of the mules and wagons to assist them when necessary, we, however, succeeded in reaching the opposite bank without any serious accident. The latitude at the point where we crossed is $34^{\circ} 29'$. The river is here two hundred yards wide and four feet deep, with a current of three miles per hour; the banks upon each side low and sandy, but not subject to overflow. Passing out through the timbered land on the bottoms, we ascended the high bluff bordering the valley by a gradual slope of about a mile, which brought us upon a very elevated prairie, with the valley of Cache creek in view directly before us.¹⁴ We arrived there on the evening of the 13th, but found that the train had not yet come up. During

13. Captain Marcy is traveling east across Jefferson County, Oklahoma.

14. This camp is in the southeastern part of Cotton County.

our march to-day we passed a small stream flowing into Red river, and directly at the point of crossing, in a gully washed out by the rains, we found many pieces of copper ore, of a very rich quality, lying upon the surface.* Our time, however, was too limited to admit of a thorough examination of the locality.

Cache creek is a stream of very considerable magnitude, one hundred and fifty feet wide and three feet deep, with a current of four miles per hour, flowing over a hard clay and gravel bed between high abrupt banks, through a valley one mile in width, of rich black alluvion, and bordered by the best timber I have yet met with west of the Cross Timbers.

Several varieties of hard wood—such as overcup, pecan, elm, hackberry, ash, and wild china—are found here, among which there is much good timber. The overcup (*Quercus macrocarpa*) especially, is here seen of very unusual size, often from three to four feet in diameter. This tree, from the length of its stock, the straightness of its grain, and the facility with which it splits, is admirably adapted to building purposes, and is made use of extensively in the southwestern states.

The soil in the valley is of such superior quality, that any kind of grain adapted to this climate could be produced without the aid of irrigation.†

* An analysis of this ore by Professor Shephard gives the following results:

Copper (with traces of iron).....	35.30
Silica.....	30.60
Oxygen and water.....	34.10

100.00

† An analysis of the sub-soil from Cache creek, by Professor Shephard, shows that it possesses strong and enduring constituents, and is admirably suited to the production of grain. It is eminently calcareous, as will be seen from the following analysis of its composition:

Three miles above the mouth the stream divides into two branches, of about equal magnitude, both of them wooded throughout as far as I traced them, and the soil along them arable in the highest degree; indeed, its fertility is manifest from the very dense and rank vegetation everywhere exhibited. The water in the creek is alkaline but quite palatable; and its temperature at the time we encamped upon it was 75° F. Our supply train arrived on the 14th, but as the recent rains had raised the water in the creek so much as to prevent our crossing, we were obliged to remain here until the 16th.

This being the point upon Red river at which we were directed to commence our explorations,¹⁵ I propose from this time to make such extracts from my journal as I may conceive pertinent to the objects of the expedition, as set forth in the letter of special instructions, which I had the honor to receive from your office, with such other information as may be considered important, and the conclusions which I have arrived at after an examination of the whole country embraced within the limits of our reconnoissance.

On the morning of the 16th the water had fallen so much that, after digging down the banks, the wagons

Silica.....	82.25
Peroxide of iron.....	2.65
Alumina.....	.55
Carbonate of lime.....	5.40
Carbonate of magnesia.....	1.70
Water (hygrometric moisture).....	5.50
Sulphate of lime and carbinat of potash (only slight traces).....	.00
	<hr/>
	98.05

15. The mouth of Cache Creek, where Marcy began his explorations was more than a hundred miles west of the most remote white settlement on Red River. He had previously explored the country as high as this point.

were taken over without difficulty. We found an excellent ford upon a rapid where the water was shallow, and the bed hard gravel.

Passing through the timbered land in the bottom, we struck out across the valley, and ascended the ridge dividing Red river from Cache creek; here we found a good road over smooth, high prairie, and after travelling 14.789 miles, encamped upon a small affluent of the west fork of Cache creek, where we found good water and wood. In the course of the march to-day we met with numerous detached pieces of copper ore, mixed with volcanic scoria.* This scoria is found in large masses in the ravines we have passed, and extends back several miles from the creek. The other rocks have been principally sandstone. In the course of the day's march we observed several Indian horse-tracks crossing our road, which were made just previous to the last rain. The direction they had been going was towards the Wichita mountains, and are the first Indian signs we have seen.

* These ores consisted of a calcareous amygdaloid, through which is interspersed black oxide of copper and stains of malachite. According to Professor Shephard's analysis, it only yields five per cent of copper.

Upon the river, a few miles south of our route, we found specimens of a very rich ore, which Professor Shephard, after a careful analysis, pronounces to be a new species, which he has called Marcyllite; it was coated with a thin layer of the rare and beautiful Atacamite (muriate of copper), and consists of:

Copper.....	54.50
Oxygen and chlorine.....	36.00
Water.....	9.50
	<hr/>
	100.00

CHAPTER II

WITCHITA MOUNTAINS—PANTHER KILLED—BUFFALO
TRACKS—SINGULAR AND UNACCOUNTABLE RISE OF
WATER—BUFFALO SIGNS—HORSE CAPTURED—
RAINS—ARRIVAL AT OTTER CREEK—BAROMETER
BROKEN—CHARACTER OF WITCHITA MOUNTAINS
—BUFFALO KILLED—HIGH WATER

SOON after we had reached the high prairie ridge upon which we had travelled to-day, we came in sight of the Wichita mountains, some twenty-five or thirty miles to the north, the chain seeming to be made up of a series of detached peaks, running from the northeast to the southwest as far as the eye can reach. Rising as these mountains do upon the naked prairie, isolated from all other surrounding eminences, they form a very striking and prominent feature in the topography of the country. We cannot yet form any definite estimate as to their height, but shall avail ourselves of the first opportunity to determine this point.

May 17.—On rising this morning I learned, much to my surprise, that nearly all our oxen had wandered off during the night, and had not yet been found. I immediately sent seven of the teamsters in search of them; but after being absent two hours they returned unsuccessful, reporting that they could get no track of them. I then started with one of our Delawares, and, after going a short distance from camp, took the track, and following it about a mile came up with the animals, who had very quietly ensconced themselves in a grove of timber near the creek.

As they had upon several occasions before given us trouble, and occasioned the loss of much time, I resolved that in the future I would have them herded until late in the evening, and tie them to the wagons for the remainder of the night. As we did not march until very late this morning, we only made eleven miles, and encamped upon one of the branches of Cache creek.¹

Our road has continued upon the high ridge lying between Red river and Cache creek, and has been perfectly firm, smooth, and level. We have to-day seen the first buffalo tracks. They were made during the last rains, and are about five days old. We are anxiously awaiting the time when we shall see the animals themselves, and anticipate much sport.

In the evening, shortly after we had turned out our animals to graze, and had made everything snug and comfortable about us, ourselves reclining very quietly after the fatigue of the day's march, one of the hunters came into camp and informed us that a panther had crossed the creek but a short distance above, and was coming towards us. This piece of intelligence, as may be supposed, created no little excitement in our quiet circle. Everybody was up in an instant, seizing muskets, rifles, or any other weapon that came to hand, and, followed by all the dogs in camp, a very general rush was made towards the spot indicated by the Delaware. On reaching the place, we found where the animal, in stepping from the creek, had left water upon his track, which was not yet dry, showing that he had passed within a short time. We pointed out the track to several of the dogs, and endeavored, by every means which our ingenuity could suggest, to inspire them with some small degree of that

1. They have encamped not far from Grandfield in Tillman County.

enthusiasm which had animated us. We coaxed, cheered, and scolded, put their noses into the track, clapped our hands, pointed in the direction of the trail, hissed, and made use of divers other canine arguments to convince them that there was something of importance on hand; but it was all to no purpose. They did not seem to enter into the spirit of the chase, or to regard the occasion as one in which there was much glory to be derived from following in the footsteps of their illustrious predecessor. On the contrary, the zeal which they manifested in starting out from camp, suddenly abated as soon as their olfactories came in contact with the track, and it was with very great difficulty that we could prevent them from running away. At this moment, however, our old bear-dog came up, and no sooner had he caught a snuff of the atmosphere than, suddenly coming to a stop and raising his head into the air he sent forth one prolonged note and started off in full cry upon the trail. He led off boldly into the timber, followed by the other dogs, who had now recovered confidence, with the men at their heels cheering them on and shouting most vociferously, each one anxious to get the first glimpse of the panther. They soon roused him from his lair, and after making a few circuits around the grove, he took to a tree.

I was so fortunate as to reach the spot a little in advance of the party, and gave him a shot which brought him to the ground. The dogs then closed in with him, and others of the party coming up directly afterwards, fired several shots, which took effect and soon placed him "hors du combat." He was a fine specimen of the North American cougar (*Felis concolor*), measuring eight and a half feet from his nose to the extremity of the tail.

May 18.—At 6 o'clock this morning we resumed our march, taking a course leading to the crest of the "divide," as we thereby avoided many ravines which extended off upon each side towards the stream and were always sure of a good road for our wagons. This ridge runs very nearly on our course, but occasionally takes us some distance from Red river; as, for example, our encampment of last night was about nine miles from the river, and we only came in sight of it once in the course of our march yesterday.

As soon as the train was under way this morning, Capt. McClellan and myself crossed over the dividing ridge and rode to Red river. We found the bed of the stream about seven hundred yards wide; the valley enclosed with high bluffs upon each side; the soil in the bottom arenaceous, supporting a very spare herbage; and the water very turbid, and spread over a large surface of sand. The general course of the river at this point is a few degrees north of west.

We are all in eager expectation of soon falling in with the buffalo, as we have seen the fresh tracks of quite a large herd to-day. As we advance, the country away from the borders of the water-courses becomes more barren, and woodlands are less frequently met with; indeed, upon the river there is no other timber but cotton-wood (*Populus angulata*), and elm (*Ulmus Americana*), and these in very small quantities; for the most part the valley of the river along where we passed to-day is entirely destitute of trees.

We have seen near here several varieties of birds, among which I observed the meadow lark (*Sturnella ludoviciana*), the pinnated grouse or prairie hen (*Tetrao cupido*), the Virginia partridge (*Ortyx Virginianus*), the

killdeer (*Charadrius vociferous*), and several varieties of small birds. We encamped upon a small affluent of Cache creek,² where on our arrival we found no water except in occasional pools along the bed; however, in the course of an hour some of the men who had gone a short distance up the creek came running back into camp and crying at the top of their voices, "Here comes a plenty of water for us, boys!" And indeed, in a few minutes much to our astonishment and delight (as we were doubtful about having a supply), a perfect torrent came rushing down the dry bed of the rivulet, filling it to the top of the banks, and continued running, turbid and covered with froth, as long as we remained. Our Delawares regarded this as a special favor from the Great Spirit, and looked upon it as a favorable augury to the success of our enterprise. To us it was a most inexplicable phenomenon, as the weather for the last three days had been perfectly dry, with the sky cloudless. If the stream had been of much magnitude we should have supposed that the water came from a distance where there had been rains, but it was very small, extending not more than three miles from the point where we encamped.

Our Delawares report that they have seen numerous fresh buffalo "signs," and that we shall probably soon come upon the herds. We have captured a horse to-day which has a brand upon him, and has probably strayed away from some party of Indians.

May 19.—Last evening the sky became overcast with heavy clouds and frequent flashes of lightning were observed near the horizon in the north and northwest. Atmospheric phenomena of this character are regarded

2. They are still in Tillman County, near Grandfield.

by the inhabitants of northern Texas as infallible indications of rain, and in verification thereof we had a very severe storm during the night. Much rain has fallen, and the earth has become so soft that I have concluded to remain here until the ground dries a little, particularly as it still continues raining at intervals and the weather is very much unsettled. Frequent rains are very unusual upon the plains at this season of the year; the rainy season generally lasts until about the 1st of May, when the dry season sets in, and there is seldom any more rain until about the middle of August. The past spring has been uncommonly dry—so much so that vegetation has suffered from it; now, however, the herbage is verdant and the grass most luxuriant.

May 20.—Although it continued raining violently during the night, and the ground was this morning mostly covered with water, we yet made an attempt to travel, but found the prairie so soft that it was with very great difficulty our teams were enabled to drag the wagons over it. We only made five miles and encamped upon a small affluent of Cache creek, which with all the small branches in the vicinity were full to the top of their banks. We find but few trees along the branch upon which we are encamped; hackberry and wild china are the only varieties.

On the 21st we again made an effort to travel; but after going a short distance up the creek, found ourselves obliged, in consequence of the mud, to encamp and await dry weather.

May 22.—This morning, notwithstanding it was cloudy and the ground very far from being dry, we made another effort to proceed. Still keeping the high "divide," we travelled in a westerly direction about

eight miles, when we turned north towards two very prominent peaks of the Wichita mountains, and continued in this course until we arrived upon an elevated spot in the prairie, where we suddenly came in sight of Red river,³ directly before us. Since we had last seen the river it had changed its course almost by a right-angle, and here runs nearly north and south, passing through the chain of mountains in front of us. We continued on for four miles further, when we reached a fine, bold, running creek of good water, which we were all rejoiced to see, as we had found no drinkable water during the day. We encamped about four miles above its confluence with Red river.⁴

This stream, which I have called Otter creek (as those animals are abundant here), rises in the Wichita mountains, and runs a course south 25° west. There are several varieties of wood upon its banks, such as pecan, black-walnut, white ash, elm, hackberry, cotton-wood, wild china, willow, and mezquite; and among these I noticed good building timber. The soil in the valley is a dark loam, and produces a heavy vegetation. The sub-soil is argillaceous. Otter creek is fifty feet wide, and one foot deep at a low stage of water.* The country over which we have passed to-day has been an elevated plateau, totally devoid of timber or water, and the soil very thin and sandy. We have not yet come in sight of any buffaloes, but have seen numerous fresh tracks. Antelopes and deer are very abundant, and we occasion-

3. They have seen what is now known as the North Fork of the Red River.

4. They have made their camp almost due north of Tipton.

* The temperature of the water in the creek at our encampment we found to be 72°F.

ally see turkeys and grouse. Captain McClellan was so unfortunate as to break his mountain barometer last night, which is much to be regretted; as we had brought it so far in safety, we supposed all danger was passed, but by some unforeseen accident it was turned over in his tent and the mercurial tube broken. Fortunately, we have an excellent aneroid barometer, which we have found to correspond very accurately with the other up to this time, and we shall now be obliged to make use of it exclusively.

On ascending Otter creek this morning as high as the point where it debouches from the mountains, I found the timber skirting its banks the entire distance, and increasing in quantity as it nears the mountains. The mountains at the head of the creek have abrupt rugged sides of coarse, soft, flesh-colored granite, mixed with other granulated igneous rocks. Greenstone, quartz, porphyry, and agate are seen in veins running through the rocks, and in some pieces of quartz which were found by Doctor Shumard in the bed of the creek, there were minute particles of gold. As the continued rains have made the ground too soft to admit of travelling at present, we are improving the time by laying in a supply of coal,⁵ timber, &c., for our journey on the plains.⁶

May 24.—It commenced raining again during the night, and has continued without cessation all day.

May 25.—It has rained violently during all of last night, and has not ceased this morning. When this long storm will abate we do not pretend to form even a con-

5. Burning charcoal for their forge.

6. While these matters were being attended to in camp, Captain Marcy was exploring the mountains and Dr. Shumard was investigating the geological formations along Otter Creek (Shumard's *Report*, p. 185).

jecture. It has occurred to me that possibly these rains may fall annually in the basin of Upper Red river; thus, perhaps, accounting for what is termed the June rise in the river. As to the cause of this rise there have been various conjectures; some supposing the river to have its sources in elevated mountain ranges, where the melting of the snows would produce this result; others, again, consider it to be by rains upon the headwaters of the river. This latter idea, however, seems rather improbable, as the country west of the Cross Timbers, so far as known, is generally subjected to very great drought from May to August. We are now in the immediate vicinity of the Wichita mountains, and it is possible they may have an effect upon the weather by condensing the moisture in the atmosphere, and causing rain in this particular locality.

May 26.—Some of the mountains which we ascended yesterday upon the east side of the creek, exhibited a conformation and composition similar to those upon the west side—that of a coarse, soft, flesh-colored granite, the peaks conical, occasionally terminating in sharp points, standing at intervals of from a quarter to one mile apart. In some instances the rocks are thrown together loosely, but here and there showing a very imperfect and irregular stratification, with the seams dipping about twenty degrees with the horizon. The direction of this mountain chain is about south 60° west, and from five to fifteen miles in breadth. Its length we are not yet able to determine. Red river, which passes directly through the western extremity of the chain, is different in character at the mouth of Otter creek from what it is below the junction of the Ke-che-ah-

qui-ho-no.⁷ There it is only one hundred and twenty yards wide; the banks of red clay are from three to eight feet high, the water extending entirely across the bed, and at this time (a high stage) about six feet deep in the channel, with a rapid current of four miles per hour, highly charged with a dull-red sedimentary matter, and slightly brackish to the taste. Two buffaloes were seen to-day, one of which was killed by our guide, John Bushman.⁸

7. This was the Comanche name for the main South Fork of Red River and meant Prairie Dog Town Fork.

8. Marcy found John Bushman an interesting Indian. He could speak English and Comanche fluently and was constituted interpreter and head man of the five Delaware and Shawnee guides and scouts employed at Fort Washita for this expedition. Bushman had acted as interpreter for Marcy when he established Fort Arbuckle "and was a true specimen of the Indian type—dignified, reserved, and taciturn, self-reliant, independent and fearless.

"He was a man of eminently determinate and resolute character, with great powers of endurance, and a most acute and vigilant observer, distinguished by prominent powers of locality and sound judgment. These traits of character, with the abundant experience he had upon the Plains, made him one of the very best guides I ever met with. . . .

"John Bushman had been married for many years, and had several children when I first met him, but his wife was getting on in years, and he resolved to provide himself with a younger companion. Accordingly, he one day introduced into his household a young Mrs. Bushman, which proceeding very much exasperated the elder matron. Shortly after this innovation upon his domestic relations, I called at his cabin, and, observing the two squaws looking very demure and sad, I asked John what the trouble was. He replied, pointing to the elder, 'That woman, he mad.' Then, turning toward the other, he said, 'That one he mad too captain.' The day following the elder wife took her children, and left John to enjoy his honeymoon without further molestation" (Colonel R. B. Marcy, *Thirty Years of Army Life on the Border*, p. 87).

The next summer when Lieutenant Whipple's expedition was exploring the proposed Pacific railroad route through the country, they stopped at Chisholm's west of Little River, and endeavored in vain to secure the services of Black Beaver and John Bushman for guides. Baldwin Mollhausen, the journalist of the expedition wrote: "John Bushman, with his little son and a beautiful squaw, paid us a visit in our camp; but it was only to declare how impossible it was for him at present to leave his land." (Baldwin Mollhausen, *Diary of a Journey from the Mississippi to the Coasts of the Pacific*, 1, 94).

Deer and antelopes are plenty, but turkeys are becoming scarce as we go west; grouse and quail are also occasionally seen here. As Otter creek continues very high, I intended, if Red river had been fordable, to have crossed that stream this morning and continued up the south bank; but we found the water about eight feet deep, and have no other alternative but to wait until it falls. Along the banks of Red river for the last thirty miles we have observed a range of sand hills, from ten to thirty feet high, which appear to have been thrown up by the winds, and support a very spare vegetation of weeds, grape-vines, and plum-bushes. Upon the river the timber has diminished so much, that we now find only here and there a few solitary cotton-woods.

From the fact that the Wichita mountains are composed almost entirely of granite and other silicious rocks that usually accompany metallic veins, and that in many places along the range they bear evident marks of great local disturbance, and from the many detached specimens of copper ore found upon the surface throughout this region, I have no doubt but that this will be found, upon examination, to be a very productive mineral district.

CHAPTER III

WITCHITAS—DISCOURAGING ACCOUNTS OF THE COUNTRY IN ADVANCE—PASS 100° OF LONGITUDE—LEAVE OTTER CREEK—BERRIES—ELK CREEK—PASS WITCHITA MOUNTAINS—GYPSUM BLUFFS—BUFFALOES SEEN—SUYDAM CREEK—COMANCHE SIGNS

May 27.—

AS the water still continues at too high a stage for crossing, we moved our camp up the creek about a mile this morning, where we found better grass for our animals. Shortly after we had pitched our tents, a large party of Indians made their appearance on the opposite bank, and requested us to cut a tree for them to cross upon, as they wished to have "a talk" with "the captain." I accordingly had a tall tree cut, which fell across the stream, when they came over upon it and encamped near us.

They proved to be a hunting party of Wichitas, about one hundred and fifty in number, and were commanded by an old chief, "Canaje-Hexie." They had with them a large number of horses and mules, heavily laden with jerked buffalo meat, and ten wild horses which they had lassoed upon the prairie. They said they had been in search of us for several days; having learned we were coming up Red river, they were desirous of knowing what our business was in this part of their country. I replied to them that I was going to the head of Red river, for the purpose of visiting the Indians, cultivating their friendship, and delivering to them "a talk" from the Great Captain of all the whites, who, in token of

his kindly feelings, had sent some presents to be distributed among such of his red children as were friends to Americans; and as many of them continue to regard Texas as a separate and independent republic, I endeavored to impress upon them the fact that the inhabitants of that State were of the same nation as the whites in other parts of the United States. I also told them that all the prairie tribes would be held responsible for depredations committed against the people of Texas, as well as elsewhere in our territories. I made inquiries concerning the country through which we still have to pass in our journey.

They said we would find one more stream of good water about two days' travel from here; that we should then leave the mountains, and after that find no more fresh water to the sources of the river. The chief represented the river from where it leaves the mountains as flowing over an elevated flat prairie country, totally destitute of water, wood, or grass, and the only substitute for fuel that could be had was the buffalo "chips." They remarked in the course of the interview that some few of their old men had been to the head of the river, and that the journey could be made in eighteen days by rapid riding; but the accounts given by those who had made the journey were of such a character as to deter others from attempting it. They said we need have no apprehension of encountering Indians, as none ever visited that section of country. I inquired of them if there were not holes in the earth where the water remained after rains. They said no; that the soil was of so porous a nature that it soaked up the water as soon as it fell. I then endeavored to hire one of their old men to accompany me as guide; but they said they were

afraid to go into the country, as there was no water, and they were fearful they would perish before they could return. The chief said, in conclusion, that perhaps I might not credit their statements, but that I would have abundant evidence of the truth of their assertions if I ventured much further with my command. This account of the country ahead of us is truly discouraging; and it would seem that we have anything but an agreeable prospect before us. As soon, however, as the creek will admit of fording, I shall, without subjecting the command to too great privations, push forward as far as possible into this most inhospitable and dreaded salt desert. As the Indians, from their own statements, had travelled a great distance to see us, I distributed some presents among them, with a few rations of pork and flour, for which we received their acknowledgments in their customary style—by begging for everything else they saw.

May 28.—Captain McClellan has, by observations upon lunar distances, determined the longitude of our last camp upon the creek to be $100^{\circ} 0' 45''$,¹ which is but

1. Captain McClellan was in error; the One Hundredth Meridian was later correctly located nearly fifty miles west of this camp. The erroneous surveys of that important line resulted in complications between Texas and Oklahoma many years later. Captain Marcy subsequently explained that McClellan's errors were attributable to imperfections in their instruments. He said the captain, unable to obtain a chronometer at the engineer department in Washington, was obliged to substitute therefor a pocket lever watch which accounted for errors in the determination of longitude, but the locations of latitude on his maps were the results of from twelve to fifteen observations of Polaris for the determination of each position and were therefore believed to be correct (*Marcy's testimony* before the Texas Boundary Commission, *ibid.*).

Two miles east of the point noted by Marcy and McClellan was the location of the later Camp Radziminaki. A. N. Jones and H. M. C. Brown, surveyors, were stationed at this camp through the fall and winter of 1858, engaged in locating the One Hundredth Meridian which they said was more

a short distance from the point where the line dividing the Choctaw territory from the State of Texas crosses Red river. The point where this line intersects Otter creek is marked upon a large elm tree standing near the bank, and it will be found about four miles from the mouth of the creek upon the south side, with the longitude (100° 0' 45'') and the latitude (34° 34' 6'') distinctly marked upon it.

Captain McClellan will start to-morrow morning for the purpose of running the meridian of the 100th degree of longitude to where it intersects Red river, and will mark the point distinctly.²

May 29.—After digging down the banks of the creek this morning, we were enabled to cross the train and to resume our march up the river; our course led us towards the point where the river debouches from the mountains, and our present encampment is directly at the base of one of the peaks, near a spring of good water. This mountain is composed of huge masses of loose granite rock, thrown together in such confusion that it is seldom any portion can be seen in its original position. There are veins of quartz, greenstone, and porphyry running through the granite, similar to those that characterize the gold-bearing formation of California, New Mexico, and elsewhere. This fact, in connexion with our having found some small particles of gold in

than forty miles west of there (Jones and Brown to Mix, November 30, 1858, Office of Indian Affairs, Southern Superintendency, J 948).

2. Up to this time they had explored more than a dozen mountains along their route, says Shumard (*Report*, p. 186). He was constantly engaged in his investigations and collecting geological specimens. They were all busy in fact, making meteorological observations, collecting botanical and paleontological specimens of many kinds, snakes, lizards, fish, and other zoological individuals, all of which are beautifully reproduced in the illustrations that adorn Marcy's report.



Indians on the move

the detritus along the bed of Otter creek, may yet lead to the discovery of important auriferous deposits in these mountains. Among the border settlers of Texas and Arkansas an opinion has for a long time prevailed that gold was abundant here, and several expeditions have been organized among them for the purpose of making examinations, but the Indians have opposed their operations, and in every instance, I believe, compelled them to abandon the enterprise and return home, so that as yet no thorough examination of the mountains has ever been made.*

We find blackberries, raspberries, gooseberries, and currants growing upon the mountains, and this is the only locality west of the Cross Timbers where I have seen them. Grapes and plums are also abundant here, as elsewhere, upon Upper Red river. The grapes are rather smaller than our fox-grapes, are sweet and juicy when ripe, and I have no doubt would make good wine; they grow upon small bushes about the size of currant-bushes, standing erect like them, and are generally found upon the most sandy soil along near the borders of the streams. The plums also grow upon small bushes from two to six feet high, are very large and sweet, and in color vary from a light pink to a deep crimson; they are the Chickasaw plum (*Prunus chicasa*).

May 30.—Captain McClellan returned this morning, having traced the meridian of the 100th degree of west longitude to where it strikes Red river.³ This point he

* Specimens of quartz and black sand were collected in the mountains; and from the presence of hydrated peroxide of iron and iron pyrites in the quartz, and from its similarity to the gold-bearing quartz of California, we were induced to hope that it might contain gold, but a rigid analysis by Professor Shephard did not detect any trace of the precious metal.

3. On the contrary, the point located by Captain McClellan was only a few minutes more than 99 degrees west longitude.

ascertained to be about six miles below the junction of the two principal branches, and three-fourths of a mile below a small creek which puts in from the north upon the left bank, near where the river bends from almost due west to north. At this point a cotton-wood tree standing fifty feet from the water, upon the summit of a sand-hill, is blazed upon four sides facing north, south, east, and west, and upon these faces will be found the following inscriptions: Upon the north side "Texas, 100° longitude;" upon the south side, "Choctaw Nation, 100° longitude;" upon the east side, "Meridian of 100°, May 29, 1852;" and upon the west side Captain McClellan marked my name, with the date. At the base of the sand-hill will be found four cotton-wood trees, upon one of which is marked "Texas," and upon another will be found inscribed "20 miles from Otter creek."

Red river at this place is a broad, shallow stream, six hundred and fifty yards wide, running over a bed of sand. Its course is nearly due west to the forks, and thence the course of the south branch is WNW. for eight miles, when it turns to nearly NW. The two branches are apparently of about equal magnitude, and between them, at the confluence, is a very high bluff, which can be seen for a long distance around. We are encamped to-night near two mountains about three miles from the river, and one mile west of the head of the west branch of Otter creek near a spring of pure cold water, which rises in the mountains and runs down past our camp.⁴ Our road leads along near the creek valley, which is from one to two miles wide, with a very productive

⁴ Their camp tonight is not far from the town of Mountain Park in Kiowa County, near Twin Mountains.

soil, covered with a dense coating of grass, and skirted with a variety of hard timber.

May 31.—Our course to-day was northwest until we encountered a bold running stream of good water, forty feet wide and three feet deep, flowing between very high and almost vertical red clay banks, through a broad, flat valley about two miles wide, of a dark alluvial soil, the fertility of which is obvious from the dense vegetation which it supports.

There is a narrow fringe of pecan, elm, hackberry, black walnut, and cotton-wood, along the banks of the creek; but the timber is not so abundant, or of as good quality, as that upon Otter creek. The abrupt banks made it necessary for us to let our wagons down with ropes. We, however, crossed in a short time, and marched about three miles further, encamping near a small spring of good water, where the wood and grass were abundant.

From the circumstance of having seen elk tracks upon the stream we passed in our march to-day, I have called it "Elk creek."⁵ I am informed by our guide that five years since, elk were frequently seen in the Wichita mountains; but now they are seldom met with in this part of the country.

The deer and antelopes still continue plenty, but turkeys are scarce. One that our grayhounds caught to-day is the first we have seen for several days. The pinnated grouse, quail, lark, mocking-bird, and swallow-tailed fly-catcher, are also frequently seen.

June 1.—During our march to-day we passed along the borders of a swift running rivulet of clear water which issues from springs in the mountains, and is filled with a multitude of fish. We also passed near the base of

5. The camp today is southwest of Hobart.

a very prominent and symmetrical mountain, which can be seen for twenty miles upon our route, and is a most excellent landmark. Several of the gentlemen ascended this peak with the barometer, and its altitude, as thereby indicated, is seven hundred and eighty feet above the base.

Captain McClellan has called this "Mount Webster," in honor of our great statesman; and upon a rock directly at the summit he has chiselled the names of some of the gentlemen of the party.⁶ The valleys lying between many of these mountains have a soil which is arable in the highest degree. They are covered with grasses, which our animals eat greedily. There are also many springs of cold, limpid water bursting out from the granite rocks of the mountains, and flowing down through the valleys, thereby affording us, at all times, a most delicious beverage where we were led to believe, from the representations of the Wichitas, we would find only bitter and unpalatable water. This is an unexpected luxury to us, and we now begin to cherish the hope that all the discouraging accounts of those Indians may prove equally erroneous.

Taking an old Comanche trail this morning, I followed it to a narrow defile in the mountains, which led me up through a very tortuous and rocky gorge, where the well-worn path indicated that it had been travelled for many years. It presented a most wild and romantic appearance as we passed along at the base of cliffs which rose perpendicularly for several hundred feet directly

6. Mount Webster now locally known as Tepee Mountain, is southeast of Lugert. They found the summit to be 783 feet above the surrounding plain.

over our heads upon either side.⁷ We saw the tracks of several elk that had passed the defile the day previous.

7. Marcy has reached the site of the Wichita Village at Devil's Canyon visited in 1834 by the Dragoon Expedition from Fort Gibson. A member of that expedition thought the scenery surrounding the canyon was equal to that of the Alps and when it should be better known would attract as many travelers as did the Swiss mountains: "On the evening of the 21st we reached the goal of our enterprise, the long sought Pawnee [Pani Pique or Wichita] village. Here was new matter of wonder. We approached a sweep of perpendicular mountains, whose tops are wholly inaccessible to the human foot from this side, and reached the village through the passage which leads to it, a narrow defile, which 100 good men with a proper armament, and a good engineer, could keep against the countless legions that Napoleon led to Moscow. After passing through this defile, we immediately entered the village, situated in a beautiful bottom, on the margin of a river, supposed by some to be main Red River, but which is only a principal fork of that stream. . . . Our arrival here was timely; for we were hungry, and had nothing to eat. They had plenty of corn just in good eating order, pumpkins, squashes, water and Muskmelons, together with dried buffalo and horse meat." The Indians gave them food but refused to take money for it, preferring to have something of more obvious intrinsic value. "They call themselves Towesh and appear amiable and industrious. The women are beauties yes, real first rate light copper beauties." (*Niles' Weekly Register*, August 8, 1835, Vol. XLVIII (whole No. 1246).

Lieut. T. B. Wheelock, the official journalist of the Dragoon Expedition, said that in approaching the Wichita village they passed their fields of corn that were "well cultivated, neatly enclosed, and very extensive, reaching in some instances several miles. . . . We soon reached the village, which is situated immediately under mountains of granite, some six hundred feet in height; in front of the village runs the river; we counted near two hundred grass lodges. These are made of poles, fixed firmly in the earth, fastened together at the top, and thatched substantially with prairie grass and stalks from their cornfields; many of these lodges are thirty feet high and forty feet in diameter; in the center of the floor a shallow excavation serves as a fireplace; around the sides are comfortable berths, large enough to accommodate two persons each.

"We encamped on a fine position about one mile from the village. Toyash men are less fine looking than the Comanches; their women are prettier than the Comanche squaws; indeed some of their girls are very pretty—naked save a broad garment of dressed deer-skin, or red cloth worn about the middle; some of the men wear coats of red cloth, obtained from the Spaniards of Mexico. Most of the officers visited them on the day of our arrival and were hospitably entertained; our own provisions were almost entirely exhausted; and we had met with little or no game for several days, and found most excellent fare in the dishes of corn, and beans which they dress with buffalo fat; they served us thus liberally and for desert gave us watermelons and wild plums. Our men purchased green corn, dried horse meat and buffalo meat;

After crossing the mountains, we descended upon the south side, where we found the river flowing directly at the base; and after ascending it about two miles, arrived at a point where it again divided into two nearly equal branches. The water in the south branch (which I have called "Salt Fork")⁸ is bitter and unpalatable, and when taken into the stomach produces nausea; whereas that in the other branch, although not entirely free from salts, can be used in case of great extremity. The compound resulting from the mixture of the water in the two branches below the confluence, is very disagreeable to the taste. The north branch, which I propose to ascend, is, near the junction, one hundred and five feet wide, and three feet deep, with a very rapid current, and the water of much lighter color than that in the Salt Fork. Three miles below the fork, between the river and the base of the mountains, there is a grove of post-oak timber, which Captain McClellan who examined it, estimates to cover an area of four or five hundred acres. This is well suited for building purposes, being large, tall, and straight. There is also an extensive tract of mezquite woodland near our camp.

One of the Delawares caught two bear cubs in the mountains to-day; one of which he brought in his arms to camp. As the mountain chain crosses the river near

we depended during our stay with them on their dried meat and corn; which with vermillion and articles of clothing, knives, &c, we were able to purchase of them (*American State Papers* "Military Affairs," Vol. V, 377; United States Senate *Executive Document No. 1*, Twenty-third Congress, second session, p. 73).

8. Modern maps show this as Elm Fork; some early maps call it Elm Fork or Marcy's Creek, or Marcy's Fork of Red River. Marcy is now about ten miles east of the site of Mangum. The name of Salt Fork was subsequently given to a branch of Red River flowing into the South Fork a short distance above its union with the North Fork.

here, and runs to the south of our course, we shall leave it to-morrow, and launch out into the prairie before us, following up the bank of the river, which appears to flow through an almost level and uninterrupted plain as far as the eye can extend. I have provided water-casks of sufficient capacity to contain water for the command for three days. I shall always have them filled whenever we find good water; and I hope thereby to be enabled to reach the sources of the river without much suffering. I cannot leave these mountains without a feeling of sincere regret. The beautiful and majestic scenery throughout the whole extent of that portion of the chain we have traversed, with the charming glades lying between them, clothed with a luxuriant sward up to the very bases of the almost perpendicular and rugged sides, with the many springs of delicious water bursting forth from the solid walls of granite, and bounding along over the debris at the base, forcibly reminds me of my own native hills, and the idea of leaving these for the desert plains gives rise to an involuntary feeling of melancholy similar to that I have experienced on leaving home.

June 2.—We left our last night's camp at 3 o'clock this morning, and taking a course nearly due west, emerged from the mountains out into the high level prairie, where we found neither wood nor water until we reached our present position, about half a mile from Red river, upon a small branch with water standing in holes in the bed, and a few small trees scattered along the banks. The latitude at this point is $35^{\circ} 3'$; longitude $100^{\circ} 12'.$ ⁹

9. Marcy's party traveled more north than west, crossed Wolf Creek and passed the future Lonewolf. They have rounded the turn of the river and are now traveling nearly west.

On leaving the vicinity of the mountains, we immediately strike a different geological formation. Instead of the granite, we now find carbonate of lime and gypsum. The soil, except upon the stream, is thin and unproductive. The grass, however, is everywhere luxuriant. Our animals eat it eagerly, and are constantly improving. Near our encampment there are several round, conical-shaped mounds, about fifty feet high, composed of clay and gypsum, which appear to have been formed from a gradual disintegration and washing away of the adjacent earth, leaving the sides exposed in such a manner as to exhibit a very perfect representation of the different strata.

June 3.—We were in motion again at 3 o'clock this morning, our course leading us directly towards a very prominent range of hills situated upon the north bank of Red river, and immediately on the crest of the third terrace or bench bordering the river valley. Their peculiar formation, and very extraordinary regularity, give them the appearance, in the distance, of gigantic fortifications, capped with battlements of white marble. Upon examination they were found to consist of a basis of green or blue clay, with two super-strata of beautiful snow-white gypsum, from five to fifteen feet in thickness, resting horizontally upon a sub-stratum of red clay, with the edges wholly exposed, and so perfectly symmetrical that one can with difficulty divest himself of the idea that it must be the work of art, so much does it resemble masonry. In many places there are perfect representations of the re-entering angles of a bastion front, with the glacis revetted with turf, and sloping gently to the river. Several springs issue from the bluffs, and (as I have always found it to be the case in the

gypsum formation) the water is very bitter and disagreeable to the taste.

I am inclined to believe that this same formation extends in a southwesterly direction from the Canadian river to this place, as I passed through a belt of country upon that stream somewhat similar to this, and in a position to be a continuation of it. We crossed the river near the lower extremity of the bluffs at a point where we found it fifty yards wide and sixteen inches deep, with a current of three miles per hour, running over a bed of quick-sand. We passed without difficulty by keeping the animals in rapid motion while in the stream, and encamped upon the high bluff on the south side. By following up the course of a ravine in the side of the gypsum bluffs, where there were detached pieces of copper ore, we discovered a vein of this metal which proved to be "green carbonate," but not of so rich a character as that we had seen before. At this point we are nearly opposite the western extremity of the chain of Wichita mountains.*

June 4.—We made an early start this morning, and travelled in the direction of a chain of bluffs which appeared to us to be upon the branch of the river we were ascending; but on reaching them we found our-

* Professor Shephard's analysis of a specimen of the sub-soil from the valley of the river near our camp on the third June, gives the following result:

Silica.....	79.30
Peroxide of iron.....	8.95
Alumina.....	1.50
Carbonate of lime.....	1.10
Sulphate of lime, with strong traces of sulphate of soda and chloride of sodium.....	4.65
Water.....	4.50
	<hr/>
	100.00

selves upon a creek running towards the *Salt Fork*, the bluffs of which we could see from the top of an eminence near the creek, about eight miles distant.

To regain our route we were obliged to turn directly north, and march about six miles in this direction, when we again came in sight of the main *North Fork*. In our route we have passed near several hills of similar formation to that of the gypsum bluffs before described. Sulphate of lime is found in large quantities throughout this section, and occurs in various degrees of purity, from the common plaster of Paris to the most beautifully transparent selenite I have ever seen. I observed several specimens, from one to two inches in thickness, that were as absolutely colorless and limpid as pure water.

We are encamped upon the elevated prairie near a clump of trees, where we find water standing in pools. We have found the grass abundant, and the water and wood sufficiently so for our purposes at all our camps since we left our visitors, the *Witchitas*.

As I was riding to-day with one of our *Delawares*, about three miles in advance of the train, we suddenly (as we rose upon an eminence in the prairie) came in sight of four buffalo cows with calves, very quietly grazing in a valley below us. We at once put spurs to our horses, and, with our rifles in readiness, set out at a brisk gallop in pursuit; but, unfortunately, they had "the wind" of us, and were instantly bounding off over the hills at full speed. We followed them about three miles, but as they were much in advance at the outset we could not overtake them without giving our horses more labor than we cared about, and so abandoned the chase. Our grayhounds caught two young

deer upon the open prairie to-day, and they have had several chases in pursuit of the antelope, but have not as yet been able to come up with them. The latitude of our present position is $35^{\circ} 15' 43''$.

June 5.—After marching nearly a mile from our last camp, we crossed a running brook of clear water, which had a slightly sulphurous taste and odor. It rises in the hills to the southwest and runs rapidly, like a mountain stream, into the main river. The appearance of this stream reminded me so forcibly of some I have seen in the mountains of Pennsylvania, that I searched it faithfully, expecting to see the spotted trout, but only found a few sun-fish and minnows.

From this brook to our present position, the country we traversed was exceedingly monotonous and uninteresting, being a continuous succession of barren sand-hills, producing no other herbage than the artemisia, and a dense growth of dwarf oak bushes, about eighteen inches high, which seem to have attained their full maturity, and bear an abundance of small acorns. The same bush is frequently met with upon the Canadian river, near this longitude, and is always found upon a very sandy soil. Our camp is in the river valley near a large spring of sulphurous water, in the midst of a grove of cotton-wood trees. Upon a creek we passed to-day on the opposite bank of the river we noticed pecan, elm, hackberry, and cotton-wood trees. The grass still continues good, and the water of the main river, although not good, can be used. The bed of the river is here one hundred yards wide, with but little water passing over the surface, being mostly absorbed by the quick-sands. Our Indians brought in three deer this evening, and the grayhounds have caught a full-grown

doe in a fair chase upon the open prairie. We occasionally see a few turkeys, but they are not as abundant as we found them below here. There are several varieties of birds around our camp—among which we saw the white owl, meadow-lark, mocking-bird, king-bird, swallow, swallow-tailed fly-catcher, and quail.

June 6.—Starting at 3 o'clock, we crossed the river near our last camp,¹⁰ and passed over a very elevated and undulating prairie for ten miles, when we reached a large creek flowing into Red river, which, in compliment to my friend Mr. J. R. Suydam, of New York City, who accompanied the expedition, I have called "Suydam creek."¹¹ It is thirty feet wide; the water clear, but slightly brackish, and flows rapidly over a sandy bed between abrupt clay banks, which are fringed with cotton-wood trees. As the water in the main river near our camp is very bitter, we were obliged to make use of that in the creek.

Above our present encampment there appears to be a range of sand-hills, about three miles wide, upon each side of the river, which are covered with the same herbage as those we passed below here.

We have seen the trail of a large party of Comanches, which our guide says passed here two days since, going south. I regret that we did not encounter them, as I was anxious to make inquiries concerning our onward route. These Indians were travelling with their families. Upon a war expedition they leave their families behind, and never carry lodges, encumbering themselves with

10. On the third, fourth, and fifth they have traveled and camped on the southwest side of the North Fork and on the sixth crossed over again west of Carter.

11. Suydam Creek, which they have just crossed, is four miles east of Sayre.

as little baggage as possible. On the other hand, when they travel with their families, they always carry all their worldly effects, including their portable lodges, wherever they go; and as they seldom find an encampment upon the prairies where poles for the frame-work of the lodges can be procured, they invariably transport them from place to place, by attaching them to each side of the pack-horses, with one end trailing upon the ground. These leave parallel marks upon the soft earth after they have passed, and enable one at once to determine whether the trail is made by a war party or otherwise. The Comanches, during the past year, have not been friendly with the Delawares and Shawnees; and although there has as yet been no organized demonstration of hostilities, they have secretly killed several men, and in consequence our hunters entertain a feeling of revenge towards them. They, however, go out alone every day upon their hunts, are frequently six or eight miles from the command, and seem to have no fears of the Comanches, as they are liable to encounter them at any moment; and being so poorly mounted that they could not escape, their only alternative would be to act on the defensive. I have cautioned them upon the subject several times, but they say that they are not afraid to meet any of the prairie Indians, provided the odds are not greater than six to one. They are well armed with good rifles—the use of which they understand perfectly—are intelligent, active, and brave, and in my opinion will ere long take ample satisfaction upon the Comanches for every one of their nation that falls by their hands.

CHAPTER IV

BUFFALO CHASE—SWEET-WATER CREEK—COMANCHE
CAMPS — PREVAILING WINDS — INDIANS SEEN —
METHOD OF ENCAMPING—WONDERFUL POWERS
OF THE DELAWARES—BEAVER DAMS—KIOWAY
CREEK

June 7.—

TAKING two of the Indians this morning, I went out for the purpose of making an examination of the surrounding country, and ascertaining whether good water could be found upon our route for our next encampment. We had gone about three miles in a westerly direction, when we struck a fresh buffalo track leading north; thinking we might overtake him, we followed up the trace until we came near the summit of an eminence upon the prairie, when I sent one of the Indians (John Bull) to the top of the hill, which was about one-fourth of a mile distant, to look for the animal. He had no sooner arrived at the point indicated than we saw him make a signal for us to join him, by riding around rapidly several times in a circle and immediately putting off at full speed over the hills. We set out at the same instant upon a smart gallop, and on reaching the crest of the hill discovered the terrified animal fleeing at a most furious pace, with John Bull in hot pursuit about five hundred yards behind him. As we followed on down the prairie we had a fine view of the chase. The Delaware was mounted upon one of our most fractious and spirited horses, that had never seen a buffalo before, and on coming near the animal he

seemed perfectly frantic with fear, making several desperate surges to the right and left, any one of which must have inevitably unseated his rider had he not been a most expert and skilful horseman. During the time the horse was plunging and making such efforts to escape, John, while he controlled him with masterly adroitness, seized an opportunity and gave the buffalo the contents of his rifle, breaking one of his fore-legs, and somewhat retarding his speed: he still kept on, however, making good running, and it required all the strength of our horses to bring us alongside of him. Before we came up our most excellent hunter, John Bull, had recharged his rifle and placed another ball directly back of the shoulder; but so tenacious of his life is this animal, that it was not until the other Delaware and myself arrived and gave him four additional shots that we brought him to the ground. Packing the best pieces of the meat upon our horses, we went on, and in a few miles found a spring-brook, in which there was an abundance of good water, where I determined to make our next encampment. On our return we saw a pack of wolves, with a multitude of ravens, making merry over the carcass of the buffalo we had killed in the morning.

Thinking that the Comanches, whose trail we had seen yesterday, might possibly be encamped within a few miles of us, I this morning directed Captain McClellan to take the interpreter and follow the trace. After going about fifteen miles he found one of their camps that had been abandoned two days previous; and as there was no prospect of overtaking them he returned, after ascertaining that they were travelling a southerly course towards the Brazos river.

In many places above the Wichita mountains we

have found drift of quartz and scoria, but the boulders of greenstone, granite, and porphyry, were only seen below the upper end of the range; and the nearer we approached the mountains from below, the larger and more angular became the fragments, until, on reaching near the base, large angular pieces nearly covered the surface of the ground, thereby leading us to the conclusion that here is the source of the boulders we have seen below the mountains, whereas the drift found here must come from above, as we have yet discovered no igneous rocks in place since we left the mountains. The formation here is a dark limestone overlaid with loose scoria. The earth upon the stream is highly arenaceous, and the soil poor. The grass, however, as we have found it everywhere upon Red river and its tributaries, is of a very superior quality, consisting of several varieties of grama and mezquite.

The range of the grama grass, so far as my observations have extended, is bounded on the north by near the parallel of 36° north latitude, and on the east by about the meridian of 98° west longitude. It extends south and west, as far as I have travelled; it appears, however, to flourish better in about the latitude of 33° than in any other. As there is generally a drought on these prairies from about the 1st of May to the middle of August, it would appear that the particular varieties of grasses that grow here do not require much moisture to sustain them.

June 8.—Our route to-day has been over a rolling prairie, in many places covered with the dwarf oak bushes before mentioned. We are encamped upon a creek of clear and wholesome water, which Dr. Shumard



Encampment on June 6

has named "Loess creek,"¹ from the circumstance that the soil upon the stream contains a deposit of land and fresh-water shells, among which are found those of *Pupa muscorum*, *Succinea elongata*, and *Helix plebeium*, forming a pulverent grayish loam similar to the loess found upon the Rhine.

No fossils were seen in this silt, but our time would not admit of making a very thorough examination of the locality. Specimens of the shells were, however, procured, to accompany our collection, and were found to be similar to those described by Lyell as occurring in Europe.

The creek is twenty feet wide and eight inches deep; runs rapidly between low banks, with only a few cotton-wood and elm trees upon them. There are also some few small knots or clumps of trees upon the elevated prairie lands in the vicinity. The observations for latitude at this point give the result $35^{\circ} 24' 50''$.

June 9.—At half-past 2 o'clock this morning we were *en route* again over a very elevated prairie for six miles, when we arrived in the valley of a fine stream of pure water, twelve feet wide and one foot deep, with a rapid current.² This stream is fringed by large cotton-wood trees along the banks, and the grass in the valley is most excellent, consisting of the mezquite and wild rye, which our animals are very fond of. From the fact of the water being so good in this stream, we called it Sweet-water creek.³ The valley is bordered upon each

1. Loess Creek heads near Grimes and flows due south into the North Fork of the Red River.

2. They have today crossed Buffalo Creek, which enters the North Fork of Red River near Mayfield.

3. Sweetwater Creek rises in Texas and crosses the line into Beckham County, Oklahoma, where it flows into the North Fork of Red River.

side by bluffs from ten to forty feet high; the soil a reddish loam and quite productive, being somewhat similar in appearance to that in the bottoms of Red river below the confluence of the Witchita, where the most abundant crops are produced.

As we ascend the river we have conclusive evidence of the falsity of the representations of our visitors, the Witchitas. It will be remembered they told us that the entire country was a perfectly desolate waste, where neither man nor beast could get subsistence, and that there was *no danger from Indians*, as none ever resorted to this section of Red river. Their statements have proved false in every particular, as we have thus far found the country well watered, the soil in many places good, everywhere yielding an abundance of the most nutritious grasses, with a great sufficiency of wood for all purposes of the traveller.

There are several old camps near us, which appear to have been occupied some two or three weeks since by the Comanches; the grass where their animals have grazed is not yet grown up.

Red river, which is about six miles distant from our present position, is eighty yards wide, with but a very small portion covered with water, running over the quick-sand bed. The banks upon each side are from four to ten feet high, and not subject to inundation. The valley is here about half a mile wide, shut in by sandy bluffs thirty feet high, which form the border to a range of sand-hills extending back about five miles upon each side of the river. The soil in the valley is sandy and sterile, producing little but scattering weeds and stunted brush.

June 10.—Our course to-day has been almost due

west, up the north bank of Sweet-water creek.⁴ The country upon each side of the valley is high and gently undulating, and the geological formation has changed from the deep-red sandstone to carboniferous limestone.

The weather for the last four days has been very cold, as will be seen from the meteorological tables appended; indeed, I think I have never in this latitude known the thermometer to range as low at this season. Upon the plains where I have heretofore travelled during the summer months, a strong breeze has generally sprung up about 8 o'clock in the morning and lasted until after night, reaching its maximum intensity about 3 o'clock in the afternoon. This breeze comes from the south, and generally rises and subsides with as much regularity as the sea-breeze upon the Atlantic coast, which fact has given rise to the opinion that it comes from the Gulf of Mexico. These cool and bracing winds temper the atmosphere, heated to intensity by the almost vertical rays of the sun, rendering it comfortable and even pleasant in midsummer. Observations were made this evening for the determination of latitude, and the result showed $35^{\circ} 26' 13''$.

June 11.—We crossed Sweet-water creek at 3 o'clock this morning, and, keeping back upon the high prairie bordering the valley, travelled eight miles in nearly a west course, when we crossed two fresh Indian trails, which, from the circumstance of there being no trace of lodge-poles, our guide pronounced to have been made by war parties; and he states that he has during the day seen four Indians upon a hill in the distance taking a look at us, but that they turned immediately on seeing him and galloped off. The fact of their not being dis-

4. Marcy's party has this day crossed the line into Texas.

posed to communicate with us looks suspicious, and they may have hostile intentions towards us; but with our customary precautions, I think we shall be ready to receive them, either as friends or enemies.

Our usual method of encamping is, where we can find the curve of a creek (which has generally been the case), to place ourselves in the concavity, with the wagons and tents extending around in a semi-circle, uniting at each extremity of the curve of the creek so as to enclose a sufficient space for the command; thus we are protected on one side by the creek, and upon the other by the line of wagons and tents. Immediately after reaching our camping-ground, all the animals are turned out to graze, under charge of the teamsters, who are armed and remain constantly with them, keeping them as near the command as the supply of grass will permit. We generally commence the day's march about 3 o'clock in the morning, and are ready to encamp by 11 o'clock; this gives ample time for the animals to graze before night, when they are driven into camp. The horses and mules are picketed within the enclosure, while the oxen are tied up to the wagons; sentinels are then posted upon each side of the encampment, and kept constantly walking in such directions that they may have the animals continually in view.

Many have supposed that cattle in a journey upon the plains would perform better and keep in better condition by allowing them to graze in the morning before starting upon the day's march, which would involve the necessity of travelling during the heat of the day. These persons are of opinion that animals will only feed at particular hours of the day, and that the remainder of the day must be allotted them for rest

and sleep, and that unless these rules are adhered to they will not thrive. This opinion, however, is, I think erroneous, and I also think that cattle will adapt themselves to any circumstances so far as regards their working hours and their hours of rest. If they have been accustomed to labor at particular hours of the day, and the order of things is at once reversed, the working hours being changed into hours of rest, they may not do as well for a few days, but they soon become accustomed to the change, and eat and rest as well as before.

By starting at an early hour in the morning during the summer months, the day's march is over before it becomes very warm; whereas, (as I have observed) if the animals are allowed time to graze before starting, the march must continue during the middle of the day, when the animals (particularly oxen) will suffer much from the heat of the sun, and, so far as my experience goes, will not keep in as good condition as when the other plan is pursued. I have adopted this course from the commencement of our journey, and our oxen have continued to improve upon it. Another and very important advantage to be derived from this course is found in the fact that the animals, being tied up during the night, are not liable to be lost or stolen.

The country over which we are now passing, except directly in the valleys of the streams, is very elevated and undulating, interspersed with round conical hills, thrown up by the winds, with the apices very acute; the soil, a light gray sand, producing little other vegetation than weeds and dwarf oaks.

This creek up which we have been travelling runs almost parallel to Red river, and affords us fine camping-places at any point.

From the very many old Indian camps that we have seen, and the numerous stumps of trees which at different periods have been cut by the Indians along the whole course of the creek, we infer that this is, and has been for many years, a place of frequent resort for the Comanches, and I have no doubt they could always be found here at the time the buffaloes are passing back and forth in their migrations during the spring and winter.⁵

The parties of Indians whose trails we crossed in our march to-day were going south, and not having their families with them, our interpreter infers that they are bound for Mexico upon a foray. Had we met them and learned that such was their intention, we might perhaps have dissuaded them from proceeding further. They may have seen our trail: if so, and they are friendly, they will visit us. Should they not come in, however, I shall send out an Indian after them, to ascertain where they encamped and the time they left. In consequence of their known hostility, our Delawares are getting somewhat cautious about encountering them. The interpreter says he would not be afraid to meet five or six, but thinks he would avoid a greater number. I directed him, in the event of his meeting a party, to invite them to come to camp, as I had a talk for them. He replied, "Suppose he want to kill me—I not tell him."

5. "The Comanches and Kiowas resort in great numbers to the waters of the North Fork of Red River. . . . In several places we found camps that had only been abandoned a few days, and some where the fires were still burning. From the great extent of surface over which the grass was cropped at some of these places, and from the multitude of tracks, it was evident that these Indians were supplied with an immense number of horses; and they had been, without doubt, attracted here by the superior quality of the grass, and the abundance of sweet cottonwood, upon the bark of which they feed their horses in the winter season" (Col. R. B. Marcy, *Thirty Years of Army Life on the Border*, 168).

This man has often been among the prairie Indians, understands their language and character well, and the moment he sees a trail made by them, or an old deserted camp, he at once determines of what nation they were; the number of horses and mules in their possession; whether they were accompanied by their families, and whether they were upon a war expedition or otherwise; as also the time (within a few hours) of their passing, with many other facts of importance.

These faculties appear to be intuitive, and confined exclusively to the Indian: I have never seen a white man that could judge of these matters with such certainty as they. For example, upon passing the trail of the Indians to-day, one of our Delawares looked for a moment at the foot-prints, picked up a blade of grass that had been crushed, and said the trail was made two days since, when to us it had every appearance of being quite fresh; subsequent observations satisfied us that he was correct.

Upon another occasion, in riding along over the prairie, I saw in the sand what appeared to me to be a bear-track, with the impression of all of the toes, foot, and heel; on pointing it out to one of the Indians, he instantly called my attention to some blades of grass hanging about ten inches over the marks, and explained to me that while the wind is blowing, these blades are pressed towards the earth, and the oscillation thereby produced had scooped out the light sand into the form I have mentioned. This, when explained, was perfectly simple and intelligible; but I am very much inclined to believe the solution of it would have puzzled the philosophy of a white man for a long time.

A few such men as the Delawares attached to each

company of troops upon the Indian frontier would, by their knowledge of Indian character and habits, and their wonderful powers of judging of country, following tracks, &c. (which soldiers cannot be taught), enable us to operate to much better advantage against the prairie tribes. In several instances when we have had our animals stray away from camp, I have sent six or eight teamsters for them, who, after searching a long time, would often return unsuccessful. I would then send out one Indian, who would make a circuit around the camp until he struck the tracks of the lost animals, and following them up, would invariably return with them in a short time. In this way their services are almost indispensable upon an expedition like ours.

June 12.—Our course to-day was very nearly due west, up the left bank of Sweet-water creek, until, within about three miles of our present position, we turned with the course of the stream more northwardly.

The country we passed over was similar to that of yesterday, but not so sandy or so heavy upon our teams. We came in sight of a line of high bluffs this morning, which were apparently about ten miles to the northwest of us. They are very elevated, and present much the appearance of the borders of the great Staked Plain, or the "Llano estacado" of the Mexicans.

On reaching camp we found that a large party of Indians, with very many animals, had been encamped here about two weeks since. Numerous trails and horse tracks were seen in every direction, and their animals have cropped the grass for a long distance around.

Their lodges were pitched near our camp, and our guide pronounced them to have been Kioways. On

inquiring how he could distinguish a Kioway from a Comanche camp, he said the only difference was that the former make the holes for their fires about two feet in diameter, while the latter only make them about fifteen inches.

A community of beavers have also selected a spot upon the creek near our camp, for their interesting labors and habitations. I know of no animal concerning which the accounts of travellers have been more extraordinary, more marvellous or contradictory, than those given of the beaver. By some he is elevated in point of intellect almost to a level with man. He has been said, for instance, to construct houses, with several floors and rooms; to plaster the rooms with mud in such a manner as to make smooth walls, and to drive stakes of six or eight inches in diameter into the ground, and to perform many other astounding feats, which I am inclined to believe are not supported by credible testimony. Laying aside these questionable statements, there is quite sufficient in the natural history of the beaver to excite our wonder and admiration. For instance, at this place, upon an examination of the dam they have constructed, I was both astonished and delighted at the wonderful sagacity, skill, and perseverance which they have displayed. In the selection of a suitable site, and in the erection of the structure, they appear to have been guided by something more than mere animal instinct, and have exhibited as correct a knowledge of hydrostatics, and the action of forces resulting from currents of water, as the most scientific millwright would have done. Having chosen a spot where the banks on each side of the creek were narrow and sufficiently high to raise a head of about five feet,

they selected two cotton-wood trees about fifteen inches in diameter, situated above this point, and having an inclination towards the stream; these they cut down with their teeth (as the marks upon the stumps plainly showed), and, floating them down to the position chosen for the dam, they were placed across the stream with an inclination downward, uniting in the centre. This formed the foundation upon which the superstructure of brush and earth was placed, in precisely the same manner as a brush dam is made by our millwrights, with the bushes and earth alternating and packed closely, the butts in all cases turned down the stream. After this is raised to a sufficient height, the top is covered with earth, except in the centre, where there is a sluice or waste-wier, which lets off the superfluous water when it rises so high as to endanger the structure. In examining the results of the labors of these ingenious quadrupeds, it occurred to me that the plan of erecting our brush dams must have been originally suggested from witnessing those of the beavers, as they are very similar. I watched for some time upon the banks of the pond, but could see none of the animals. I presume they think we make too much noise in our camp to suit them, and deem it most prudent to remain concealed in their submarine houses.

I observed one place above the pond where they had commenced another dam, and had progressed so far as to cut down two trees on opposite sides of the creek; but as they did not fall in the right direction to suit their purposes, the work was abandoned. As the course of Sweet-water creek turns too much to the north above here, we shall leave it; and it is with much regret that

we are obliged to do so, as it has afforded us the best spring water, with good grass and wood, for five days.

June 13.—Leaving the command this morning encamped upon Sweet-water creek.⁶ I made a trip to Red river, which is about six miles in a southwest direction; it was one hundred yards wide where we struck it, with but a very small portion covered with water, and, very much to our astonishment, for the first time, upon tasting it, we found it free from salts. Following up the stream about a mile, we discovered that this good water all issued from a small stream that put in upon the north bank, and above this the bed of the main river was dry. As there is an incrustation of salt upon the bed of the river below the creek, where the water has subsided after a high stage, I have no doubt but that the water above here will be found to be impregnated with salts, and that all the fresh water now found in the river comes from the creek mentioned.

Along the whole course of Red river, from Cache creek to this point, we find three separate banks or terraces bordering the river; the first of which rises from two to six feet above the bed of the stream. The second is from ten to twenty feet high; and the third, which forms the high bluff bordering the valley of the river, is from fifty to one hundred feet. The first bank is in places subject to inundation, and generally is from fifty to two hundred yards wide. The second is never submerged, and is from two to fifteen hundred yards wide. The third bank bounds the high prairie. We found the range of sand-hills still continuing along the river; and

6. They are camped near the site of the future Fort Elliott and Mobeetie, Texas. The Comanche Indians called the North Fork of Red River Mobetia Hono, meaning Walnut River (*United States vs. Texas, Record*, Vol. I, 454, 469).

we have constantly during the day been in sight of the line of bluffs which I supposed to be the border of the "Llano estacado." We also passed the trail of a very large party of Indians, who were ascending the river before the last rain (some two weeks since).

After leaving the river on our return to camp, we found two fine brooks of cold spring water, with good wood and grass upon them, and as they are in our course I propose to make our next camp upon one of them.

June 14.—Making an early start this morning, we travelled eleven miles in a westerly course, when we reached a very beautiful stream of good spring water, flowing with a uniformly rapid current through a valley about a mile wide, covered with excellent grass.⁷ There is a heavy growth of young cotton-wood trees along the borders of the creek, and among them are found immense quantities of that peculiar variety of grape I have before mentioned as growing in the sand-hills along the valley of Red river. They grow here upon low bushes about four feet high, similar to these cultivated varieties that are trimmed and cut down in the spring. When growing near the trees they never rest upon them, like our eastern varieties of the wild grape, but stand separate and erect, like a currant-bush.

This creek appears to be a place of winter resort for large numbers of the prairie Indians. We found many old camps along the stream, and the ground for several miles was thickly strewn with cotton-wood sticks, the bark of which had been eaten off by their animals. The prairie tribes are in the habit of feeding their favorite horses with the cotton-wood bark in the winter; and it is probably the abundance of this wood that has at-

7. They are now in eastern Gray County, Texas.

tracted them here. We found the stumps of the trees that they had cut from year to year in various stages of decay—some entirely rotten, and others that had been cut during the past winter. The fine mezquite and grama grass furnishes pasturage for their animals during a great part of the winter; and the cotton-wood is a never-failing resort when the grass is gone.

As we are now nearly opposite the country on the Canadian river occupied by the Kioway Indians, it is quite probable that some of that nation winter at this place; and I have no doubt but that they could be found here at any time during that season. I have called the creek *Kioway creek*.

Game is abundant in this vicinity; and our hunters keep the entire command constantly supplied with fresh meat, so that we have not yet had occasion to kill one of our beef-cattle. Seven deer and one antelope were killed to-day. For months previous to leaving Fort Belknap, with the exception of a few wild onions, my men had eaten no vegetables. Some of them had been attacked with scurvy, and all were more or less predisposed to it. I have, therefore, been exceedingly anxious to take all possible precautions for warding off this most dreaded disease. As I had no anti-scorbutic, with the exception of a very few dried apples and a little citric acid, I was obliged to make use of everything the country afforded as a substitute for vegetables. I caused the men to eat greens whenever they could be obtained, with the green grapes occasionally; and to-day we were so fortunate as to discover a fine bed of wild onions (a most excellent anti-scorbutic) upon some sand-hills over which we passed. A quantity were collected by the men and made use of freely.

CHAPTER V

REACH THE SOURCE OF THE NORTH BRANCH OF RED RIVER—BOTTLE BURIED—ARRIVED UPON THE CANADIAN—DEPARTURE FOR MIDDLE FORK—INDIAN BATTLEGROUND—PRAIRIE DOG TOWNS—SOURCE OF MIDDLE FORK—SOUTH FORK—PRAIRIE DOGS

June 15.—

ON account of the morning being dark and the clouds threatening rain, we did not leave camp until daylight this morning. We, however, made a good day's march over a very heavy sandy country, and after crossing the main river, encamped upon the south bank.

During the day we crossed several small branches, in which we found good water; and in several places where there was timber upon them, we saw old Indian camps. At one place I noticed a large grove of cotton-wood which had been entirely enclosed with a brush fence by the Indians; this was probably made for the purpose of keeping their animals from straying away.

On reaching the river we found that it had very much diminished in magnitude since we had last seen it. It was now only fifteen yards wide, the water clear, and to the taste entirely free from salts.

The herbage for the last twenty miles of our march has suffered much from drought, and the grass in many places upon the elevated lands is entirely burnt up. We, however, continue to find excellent grass in the valleys near the borders of the small streams, and upon the river itself. The only varieties of timber that we find upon this part of Red river are cotton-wood and

hackberry, the former greatly predominating and of large dimensions. Indeed, I have never seen so much timber at any other place upon the plains, in this longitude, as we find here.

We have had the line of high bluffs in sight before us all day, and we are now within a few miles of them. The geological formation through the country over which we are passing is a light-colored calcareous sandstone, covered with a drift of quartz and scoria.

Near our present position, upon the opposite side of the river, there has been a very large band of Kioways encamped, about two weeks since, and their animals have cropped much of the grass for several miles around us. From the multitude of tracks that we see in every direction, there must have been an immense number of animals. On leaving here their course was south.

June 16.—Striking our tents at three o'clock this morning, we followed up the south bank of the river, which runs in a westerly course for eight miles, when it suddenly turns to the southwest, and here the elevated bluffs which we have had in view for several days past approach the river upon each side, until there is but a narrow gorge or canyon for the passage of the stream. These bluffs are composed of calcareous sandstone and clay, rising precipitously from the banks of the stream to the height of three hundred feet, when they suddenly terminate in the almost perfectly level plain of the "Llano estacado." Here the river branches out into numerous ramifications, all running into the deep gorges of the plain. Taking the largest, we continued up it, riding directly in the bed of the stream for about five miles, when we reached the source of this branch of the river, and by ascending upon the table-lands above,

we could see the heads of the other branches which we had passed a few miles below.

The latitude at this place, as determined by several observations of Polaris, is $35^{\circ} 35' 3''$, and the longitude $101^{\circ} 55'$. These results make our position only about twenty-five miles from the Canadian river; and as I am anxious to determine how our observations conform to those we made in ascending that stream in 1849, I propose taking ten men, and leaving the main body of the command to guard our oxen and stores, to make a trip in a due north course to the Canadian. This will serve to show the connexion between that stream and a certain known point upon the head of the north branch of Red river; and is, in my opinion, a geographical item which it is important to establish and confirm by actual observation, particularly as the Canadian has by several travellers been mistaken for Red river.

At our encampment of this evening is the last running-water we have found in ascending this branch of Red river. We are near the junction of the last branch of any magnitude that enters the river from the north, and about three miles from the point where it debouches from the plains, in a grove of large cotton-wood trees upon the south bank of the river. Under the roots of one of the largest of these trees, which stands near the river and below all others in the grove, I have buried a bottle containing the following memorandum: "On the 16th day of June, 1852, an exploring expedition, composed of Captain R. B. Marcy, Captain G. B. McClellan, Lieutenant J. Updegraff, and Doctor G. C. Shumard, with fifty-five men of company D fifth infantry, encamped here, having this day traced the north branch of Red River to its sources. Accompanying the expedi-



Granite boulders, in Wichita Mountains

tion were Captain J. H. Strain,¹ of Fort Washita, and Mr. J. R. Suydam, of New York City." This tree is blazed on the north and east sides, and marked upon the north side with a pencil as follows: "Exploring Expedition, June 16, 1852."²

An incident happened this evening, which for a short time gave us much uneasiness and alarm. It was caused by one of the gentlemen of the party walking out from camp alone without our knowledge, and remaining away about two hours before we discovered his absence. It was after dark when I first learned that he was not in camp, and as there were many fresh signs of Indians around, I was fearful he had fallen into their hands. I immediately started out the Delawares in search of him, and ordered our six-pounder to be discharged, with muskets at short intervals and at the same time made preparations for starting out myself; but no sooner had the cannon been fired than he made his appearance, in a state of much excitement, and had evidently been greatly confused and alarmed, as is always the case with persons who are lost. He states that he had gone out for the purpose of taking a short walk, and in returning over a hill had lost sight of the camp; that in endeavoring to make his way back he had become so much confused, that after night he took ours for a Comanche camp, and dared not approach until he heard the signal-gun.

June 17 to 19.—On the 17th, accompanied by three gentlemen of the party, with five soldiers and three Indians, I started in a northerly direction to go in search

1. J. H. Strain was a civilian, a merchant at Fort Washita, the settlement later bearing the name of Hatboro.

2. Near Lefors in Gray County, Texas.

of the Canadian river. Our route led us immediately out upon the elevated plateau of the Staked Plain, where the eye rests upon no object of relief within the scope of vision.

Pursuing our way over this monotonous and apparently boundless plain for fifteen miles, our eyes were suddenly gladdened by the appearance of a valley and bluffs before us, which I at once recognized to be upon the Canadian; and after travelling ten miles further, we found ourselves upon that stream, making the entire distance from the head of Red river to the Canadian twenty-five miles.³ This was a matter of much gratification and interest to us, as it developed and confirmed the accuracy of our calculations regarding the geographical position of the sources of Red river. The point where we struck the Canadian is at the mouth of a small stream called Sandy Creek upon the map of the road from Fort Smith to Santa Fe. This being near longitude $101^{\circ} 45'$, and latitude $35^{\circ} 58'$, makes the calculation for the two positions approximate very closely. The formation upon the Canadian at this point is very similar to that upon the Red river, being composed of light-colored friable arenaceous limestone, resting upon a stratum of red sand, with a sub-stratum of blue clay, the whole overlaid by a drift of quartz, felspar, and agate. The soil upon the creek is a dark-brown loam, covered with a heavy coating of wild rye and mezquite, and if the drought of summer did not prevent, would produce abundant crops. The only varieties of timber found here are the wild china, hackberry, willow, and cotton-wood, the latter, in some instances, growing to an enormous size. One tree,

3. Actually it was more nearly thirty-five miles.

standing upon the creek near the Canadian, which we measured, was nineteen and a half feet in circumference at five feet above the ground.⁴ The Santa Fe road passes directly along the river-bank at this place, and upon the north side of the river stand four cotton-wood trees; these are blazed, and the distance in a due south course to the head of Red river, with the date of our arrival there, marked upon one of them. Having finished the examination of the north branch of Red river, we propose turning to the south from this point, and, crossing the elevated prairie of the Staked Plain, shall endeavor to reach the middle or Salt Fork, which we passed upon our left near the upper extremity of the Wichita range of mountains. The only apprehension that we entertain is, that we may suffer for water, but shall keep our water-casks filled whenever it is practicable.

The grass upon the Staked Plain is generally a very short variety of mezquite, called buffalo-grass, from one to two inches in length, and gives the plains the appearance of an interminable meadow that has been recently mown very close to the earth.

I have never travelled over a route on the plains west of the Cross Timbers where the water, grass, and wood were as good and abundant as upon the one over which our explorations have led us. This has been to us a most agreeable surprise, as our friends, the Wichitas, had given us to understand that we should find no wood, and nothing but salt water, in this section of the country.

4. The Kiowa Indians told of a big cottonwood tree on the Salt Fork of Red River, called by them Ataway-taiti-pau; this tree was so large, they said, that "it took seven men to span around it with outstretched arms." It burned down many years ago (Testimony of Chaddle-Kaungky, alias Black Goose, a Kiowa Indian, *United States vs. Texas*, Supreme Court of the United States, No. 4 *original, Record*, Vol. II, p. 652).

I can account for their misrepresentations only on the ground that they did not wish us to go into the country, and took this course to deter us from proceeding further.

June 20.—We made an early march this morning, passing over the high hills bordering the river, and the broad swells of prairie adjoining, for twelve miles, when we reached the valley of a very beautiful stream, twenty feet wide and six inches deep, running rapidly over a gravelly bed, through a valley about a mile wide of sandy soil, with large cotton-wood trees along the banks. I have called this "McClellan's Creek," in compliment to my friend Captain McClellan, who, I believe to be the first white man that ever set eyes upon it.⁵

We were happy, on arriving here, to find the water perfectly pure and palatable; and we regard ourselves as most singularly fortunate in having favorable weather. The rains of the last two days have made the atmosphere delightfully cool, and afford us water in many places where we had no reason to expect it at this season of the year.

During the middle of the day, when the earth and the adjacent strata of air had become heated by the almost vertical rays of the sun, we observed, as usual, upon the "Llano estacado," an incessant tremulous motion in the lower strata of the atmosphere, accompanied by a most singular and elusive mirage. This phenomenon, which so bitterly deluded the French army in Egypt, and has been observed in many other places, is here seen in perfection.

The very extraordinary refraction of the atmosphere upon these elevated plateaus, causes objects in the distance to be distorted into the most wild and fantastic

5. They are now in southern Gray County.

forms, and often exaggerated to many times their true size. A raven, for instance, would present the appearance of a man walking erect; and an antelope often be mistaken for a horse or buffalo. In passing along over this thirsty and extended plain in a warm day, the eye of a stranger is suddenly gladdened by the appearance of a beautiful lake, with green and shady groves directly upon the opposite bank. His heart beats with joy at the prospect of speedily luxuriating in the cool and delicious element before him, and he urges his horse forward, thinking it very strange that he does not reach the oasis. At one time he imagines that he has made a sensible diminution in the distance, and goes on with renewed vigor and cheerfulness; then again he fancies that the object recedes before him, and he becomes discouraged and disheartened. And thus he rides for miles and miles and still finds himself no nearer the goal than when he first saw it—when, perhaps, some sudden change in the atmosphere would dissipate the illusion, and disclose to him the fact that he had been following a mirage.

June 21.—On leaving our camp of last night, we crossed the creek and continued a south course for about five miles, when we rose upon the crest of a very elevated ridge which divides the waters of the north from those of the middle or Salt Fork; the valleys of both of which can be seen from this position.⁶ Descending upon the south side of the ridge, we encamped upon an affluent of the south fork, which runs rapidly through a narrow valley in an easterly course.⁷ The water is abundant, and free from salts.

6. They have crossed the divide on which runs the Chicago, Rock Island, and Gulf Railroad and have passed into northern Donley County.

7. White Fish Creek.

The geological formation upon this side of the dividing ridge is different from that upon the north side, being here a soft, coarse, friable, conglomerated sandstone, enclosing a small drift of quartz, felspar, mica and serpentine. The country in this vicinity is much broken and cut up with deep gorges and abrupt ridges, which are mostly impassable for wagons, and we have been obliged in consequence to travel a very circuitous route to-day, keeping the dividing ridges as much as possible, where we invariably find good ground for a road.

June 22.—In our course this morning, we struck one of the principal branches of the Salt Fork near its source, and followed it down upon the left bank to its confluence with the main stream.⁸ Below the junction the stream was fifty yards wide, but only about one-fourth of its bed covered with water. This branch of Red river, like the other, heads in the border of the "Llano estacado," and directly at the source is an elevated hill with abrupt vertical sides, terminating in a level summit; below this, upon the south bank, are two round mounds that can be seen for many miles.

We were much gratified in finding the water at the head of this branch, as in the north fork, sweet and wholesome. This settles the question that these branches of the river do not take their rise in salt plains, as has heretofore been very generally supposed. On the contrary, at their sources, which are in the eastern borders of the "Llano estacado," the water is as pure and wholesome as can be desired. And this character continues upon all the confluent until they enter the gypsum

8. This may have been Saddlers Creek or Carrol Creek. He had reached what he thought the headwaters of his "Salt Fork" (now Elm Fork). Actually he was now on the headwaters of the present Salt Fork.

formation, when they become impregnated with salt, s that impart a new character to the water, which continues to its junction with the Mississippi.

A solitary cotton-wood, with an occasional clump of willows, constitute the sylvia of this portion of the river. The soil in the valley is an arenaceous red alluvium, and would be productive with the aid of artificial irrigation.

The bluffs bordering the valley are, at this place, about one hundred feet high, and composed of a deep red clay, overlaid with a stratum of drift; and this surmounted with a capping of calcareous sandstone from five to fifteen feet thick.

Upon the rocky bluffs bordering the river we found silicified wood in great quantities, strewed about over a distance of two miles. The petrification was most perfect, exhibiting all the fibres, knots, and bark, as plainly as in the native state, and was quite similar to the cotton-wood.

This evening we have another rain coming from the northwest, which will increase our chances for finding water in advance.

As it will be seen by a reference to the meteorological tables, our barometer has, in almost every instance, been a certain index to the weather from the commencement of the march. Sometimes, indeed, it has exhibited a most extraordinary depression of the mercury for two or three days previous to a storm; but in no instance has it failed to rain before the instrument will resume its usual range.

During the last three summers which I have spent upon the plains, as has been before observed, I have seen no rain of consequence from about the middle of May to the middle of August. And after passing west

beyond the ninety-ninth degree of longitude, there has been but very little dew during the same period. The water in most of the streams was, at the same time, absorbed by the parched and porous soil over which it passed, and vegetation suffered much from the drought.

On the contrary, we have this season been favored with frequent and copious rains, and heavy dews. The streams have everywhere furnished a plentiful supply of good water, and the whole face of the prairies has been cheered with a rich and verdant vegetation. Near the place where we have pitched our tents this evening is an old Indian encampment, where John Bushman, our Delaware interpreter, has discovered that a battle has been fought within the past two months. The evidences of this are apparent from the fact that the remains of a large fire were found, upon which the victorious party had piled up and burned the lodges and effects of the vanquished. Pieces of the lodge-poles, and a quantity of fused glass beads, with small pieces of iron and other articles pertaining to their domestic economy, which had partially escaped the conflagration, were found scattered about the encampment. The number of lodge-fires indicated that the vanquished party was small.

The trail of a large party of Kioways, travelling to the north just before the last rain, has been seen to-day; and we are continually meeting with evidences of their having frequently resorted to this branch of the river. Their old camping places and their trails are seen almost every day. They are probably at this time north of the Canadian, with the buffaloes; but are attracted to the waters of Red river in the autumn and winter, where the exuberant and rich grama grasses which everywhere

abound in the river bottoms afford the finest pasturage to their numerous animals.

We have been gradually and regularly ascending in our progress westward,⁹ until now our approximate elevation above the sea, as indicated by the barometer, is two thousand seven hundred and two feet.

Our route to-day along the river valley has been populous with prairie dogs, their towns occupying almost the entire valley of the river. I was anxious to obtain a good specimen, and killed several of the largest I could find; but my rifle-ball mutilated them so much, that we did not think them worth preserving.

Our hunters brought in two deer and a turkey this evening, and their auxiliaries, the grayhounds, have added another deer to the list.

June 23.—This morning being dark, cloudy, and threatening rain, we did not leave camp until a late hour, when we continued our march down the left bank of the river for some four or five miles, directly at the base of the lofty escarpments of red clay and sandstone which terminate the valley upon the north side.

Soon after we started it commenced raining violently, and has continued incessantly throughout the day. It has raised the water in the river about twelve inches, so that now the entire bed is covered. In consequence of the rain we made an early encampment upon the south bank of the river.

The country upon each side of the river along where we have passed to-day has been much broken up into deep gorges and precipitous ridges, which are wholly impassable for wagons; and the features of the country adjoining have assumed a desert character. With the

9. They have passed up into Armstrong County.

exception of a narrow strip of land forming the river-bottom, no arable soil can be seen, and no timber is found except a few stunted cotton-woods directly upon the river banks. Several varieties of the wild sensitive plant, and especially *Schrankia angustata*, are found everywhere throughout this section, and the atmosphere is redolent with the delightful perfume which is emitted from their blossoms.

Having traced this branch of the river to its source, and satisfied myself, from the portion that we have passed over, as to its general physical and topographical features, I have resolved to leave it at this point, and taking a southerly course, shall endeavor to make our way to the south branch of the river. I think the remainder of the time we have at our disposal can be more profitably occupied in exploring the country along the borders of that stream than in any other way.

We shall set out with a supply of water and wood sufficient for three days; and we hope, before that time expires, to find ourselves upon the waters of the south branch. Our animals that were poor when we left the settlements, are at this time in most excellent condition; and if we continue to find water and grass as abundant as we have done, we shall take them home in much better plight than they were at the commencement of our journey.

Thus far we have been most singularly fortunate in not losing even an animal by death or straying away; and, indeed, we have been much favored in every respect. The command have generally been in fine health and spirits, and with the exception of two cases of scurvy that originated before our departure from Fort Belknap, we have had no sickness worth mentioning.

June 24.—We were in motion at a very early hour this morning, and taking a southerly course directly at right-angles to the river, we soon became involved in a labyrinth of barren sand-hills, in which we travelled some fourteen miles before we emerged upon a high ridge, from which, in the distance, we could discern through the dim and murky atmosphere a very broad valley, through which we supposed the south branch to flow.

The bare and hot sand over which we had just passed was in strong contrast with the refreshing verdure of the valley before us. After travelling a few miles down the south slope of the divide, we encamped upon a small branch, where we found good water and grass, with a few cotton-wood trees, which furnished us with fuel.

The geological formation upon the bluffs bordering this stream is a friable red sandstone, overlaid with a stratum of coarse gypsum, with a subjacent stratum of bright red clay, interstratified with seams of gypsum. The soil since we left the sand-hills has been good, probably owing to the fertilizing properties of the gypsum.

June 25.—The atmosphere this morning was clear, cool, and bracing, with a north-northeasterly wind; the thermometer at 3 A. M. standing at 69°. The sky at sunrise was cloudless, and the sun shone brilliantly upon some elevated white bluffs which we could see in the distance, and supposed to be upon the border of the valley of the south fork of Red river.

At an early hour we resumed our march down the creek for about three miles, when we crossed another large stream with clear running water, and taking a circuitous course among the rough and broken hills

bordering it, we made fifteen miles, encamping upon a branch where we found water standing in pools.

Our course to-day has led us through a formation of sulphate and carbonate of lime, which in some places appeared to be decomposed and covered the earth in a powdered state to the depth of three inches. Several fossil shells belonging to the cretaceous system were found to-day; they were much rounded by attrition, and probably have been transported here from a distance by water.

June 26.—We were in motion at the usual time this morning, and turning our course up the river over a very broken and elevated country, travelled ten miles, when we encamped upon a large branch of the south fork which enters from the north.¹⁰ It is fifty yards wide, with a sandy bed, and at this time contains but little water. The white escarpment of the Staked Plain has been in sight for the last two days in front and on the right of us. It seems to be very much elevated above the adjoining country, with almost vertical sides, covered with a scrubby growth of dwarf cedars, and from the summit the country spreads out into a perfectly level plain, or mesa, as far as the eye can penetrate.

The stream upon which we are encamped, like the other branches of Red river, takes its rise in the borders of this plain, and for several miles from its source there are numerous branches issuing from deep canyons, with perpendicular sides, which continue until they debouch into the more rolling country below, where the banks become low, and the bed broad and sandy.

The geological features of the country upon the head of this branch are characterized by a different formation

10. Probably Mulberry Creek southwest of Clarendon.

from that upon the other branches we have seen, inasmuch as we here find the gypsum extending to the very sources, and the water having the peculiar taste imparted by that mineral throughout its entire course.

Our road during the whole day has passed through a continuous dog-town (*Spermophilus ludovicianus*), and we were often obliged to turn out of our course to avoid the little mounds around their burrows.

In passing along through these villages the little animals are seen in countless numbers sitting upright at the mouths of their domicils, presenting much the appearance of the stumps of small trees; and so incessant is the clatter of their barking, that it requires but little effort of the imagination to fancy oneself surrounded by the busy hum of a city.

The immense number of animals in some of these towns, or warrens, may be conjectured from the large space which they sometimes cover. The one at this place is about twenty-five miles in the direction through which we have passed it. Supposing its dimensions in other directions to be the same, it would embrace an area of six hundred and twenty-five square miles, or eight hundred and ninety-six thousand acres. Estimating the holes to be at the usual distances of about twenty yards apart, and each burrow occupied by a family of four or five dogs, I fancy that the aggregate population would be greater than any other city in the universe.¹¹

This interesting and gregarious little specimen of the mammalia of our country, which is found assembled in such vast communities, is indigenous to the most of our

11. There is a mistake in Captain Marcy's multiplication. The area would include 400,000 acres, which would accommodate from twenty to twenty-five million prairie dogs.

far western prairies, from Mexico to the northern limits of the United States, and has often been described by travellers who have been upon the plains. But as there are some facts in relation to their habits which I have never seen mentioned in any published account of them, I trust I shall be pardoned if I add a few remarks to what has already been said. In the selection of a site or position for their towns they appear to have a regard to their food, which is a species of short wiry grass, growing upon the elevated plains, where there is often no water near. I have sometimes seen their towns upon the elevated table-lands of New Mexico, where there was no water upon the surface of the ground for twenty miles, and where it did not seem probable that it could be obtained by excavating to the depth of a hundred feet. This has induced me to believe that they do not require that element without which most other animals perish in a short time.

As there are generally no rains or dews during the summer months upon the plains where these towns are found, and as the animals never wander far from home, I think I am warranted in coming to the conclusion that they require no water beyond that which the grass affords them. That they hibernate and pass the winter in a lethargic or torpid state is evident, from the fact that they lay up no sustenance for the winter, and that the grass around their holes dries up in the autumn, the earth freezes hard and renders it utterly impossible for them to procure food in the usual manner.

When the prairie dog first feels the approach of the sleeping season (generally about the last days of October), he closes all the passages to his dormitory to exclude the cold air, and betakes himself to his brumal slumber

with the greatest possible care. He remains housed until the warm days of spring, when he removes the obstructions from his door and again appears above ground as frolicsome as ever.

I have been informed by the Indians that a short time before a cold storm in the autumn, all the prairie dogs may be seen industriously occupied with weeds and earth, closing the entrances to their burrows. They are sometimes, however, seen reopening them while the weather is still cold and stormy, but mild and pleasant weather is always certain to follow.

It appears, therefore, that instinct teaches the little quadrupeds when to expect good or bad weather, and to make their arrangements accordingly. A species of small owl is always found in the dog towns, sitting at the mouths of the holes when not occupied by the dogs; whether for the purpose of procuring food, or for some other object, I do not know. They do not, however, as some have asserted, burrow with the dogs; and when approached, instead of entering the holes, they invariably fly away. It has also been said that the rattlesnake is a constant companion of the dog; but this is a mistake, for I have sometimes passed for days through the towns without seeing one. They are, however, often seen in the holes in company with the dogs, and it has been supposed by some that they were welcome guests with the proprietors of the establishments; but we have satisfied ourselves that this is a domestic arrangement entirely at variance with the wishes of the dogs, as the snakes prey upon them, and must be considered as intruders. They are probably attracted to the burrows for the purpose of procuring food, as one snake which we killed was found to have swallowed a full-grown dog.

CHAPTER VI

ARRIVE AT MAIN SOUTH FORK—PANTHER KILLED—
BITTER WATER—INTENSE THIRST—HEAD SPRING
—BEARS ABUNDANT—DEPARTURE DOWN THE
RIVER

June 27.—

MAKING an early start this morning, we travelled down the river for five miles, when we crossed and resumed the south course over high rolling lands, much broken up on each side into numerous deep defiles and rugged cliffs, running towards the main river.

Directly in front of us lay the high table-lands of the "Llano estacado," towering up some eight hundred feet above the surrounding country, and bordered by precipitous escarpments capped with a stratum of white gypsum, which glistened in the sun like burnished silver. After travelling fourteen miles, we reached the valley of the principal branch of the river.¹

It was here nine hundred yards wide, flowing over a very sandy bed, with but little water in the channel, and is fortified upon each side by rugged hills and deep gullies, over which I think it will be impossible to take our train. The soil throughout this section is a light ferruginous clay, with no timber except a few hackberry and cotton-wood trees upon the banks of the streams. There is but little water either in the river or in the creeks, and in a dry season I doubt if there would be any found here.

Our route to-day has continued to lead us through dog towns, and it is probable that the fact of their being

1. Red River.



Mow-wio village, near Wichita Mountains, Indian Territory

so abundant here has suggested the name which the Comanches have applied to this branch of Red river, of "Ke-che-a-qui-ho-no," or "Prairie-dog-town river."

We were so unfortunate yesterday as to lose an excellent bear-dog which a gentleman in Arkansas had taken great pains to procure for me. I regret this very much, as we are now coming into a country where we shall probably find these animals abundant, and it is difficult to hunt them without a good dog, trained for the purpose.

Our hunters killed two antelopes to-day. We have seen but few deer, however, and no turkeys, during the last week. We occasionally see the pinnated grouse and the quail; as also the meadow-lark, which I have found in all places wherever I have travelled.

June 28.—On leaving our encampment of last night, we took a southwesterly course for the eastern extremity of the white-capped bluffs which have been so long in sight, and which border the great plain of the "Llano estacado" upon the river valley.

After marching eight miles over a succession of very rugged hills and valleys, which rise as they recede from the river, we reached the base of these towering and majestic cliffs, which rise almost perpendicularly from the undulating swells of prairie at the base, to the height of eight hundred feet, and terminate at the summit in a plateau almost as level as the sea, which spreads out to the south and west like the steppes of Central Asia, in an apparently illimitable desert.

I supposed, from the appearance of the country at a distance, that I should be able to find a passage for the wagons along at the foot of these cliffs; but, upon a

closer examination, find the ground between them and the river so much cut up by abrupt ridges and deep glens, that it is wholly impracticable to take our train any further up this branch of the river. We have sought for a passage by which we might take the train to the top of the bluffs, where, as they run nearly parallel to the course of the river, we might have continued on with the wagons; but after making a careful examination, we have abandoned the idea, not being able to discover a place where we could even take our horses up the steep sides of the precipice.

The geological formation of these bluffs is a red indurated clay, resting upon a red sandstone, overlaid with a soft, dark gray sandstone, and the whole capped with a white calcareous sandstone, the strata resting horizontally, and receding in terraces from the base to the summit.

As Capt. McClellan and myself were passing to-day along under the bluffs, we saw in advance of us a herd of antelopes quietly feeding among the mezquite trees, when the idea occurred to me of attempting to call them with a deer-bleat, which one of the Delawares had made for me. I accordingly advanced several hundred yards to near the crest of a hill, from which I had a fair view of the animals, and, very deliberately seating myself upon the ground, screened from their observation by the tall grass around me, I took out my bleat and commenced exercising my powers in imitating the cry of the fawn. I soon succeeded in attracting their attention, and in short time decoyed one of the unsuspicious animals within range of my rifle, which I raised to my shoulder, and, taking deliberate aim, was in the act of pulling the trigger, when my attention was suddenly and most

unexpectedly drawn aside by a rustling which I heard in the grass to my left. Casting my eyes in that direction, to my no small astonishment I saw a tremendous panther bounding at full speed directly towards me, and within the short distance of twenty steps. As may be imagined, I immediately abandoned the antelope, and, directing my rifle at the panther, sent a ball through his chest, which stretched him out upon the grass about ten yards from where I had taken my position. Impressed with the belief that I had accomplished a feat of rather more than ordinary importance in the sporting line, I placed my hand to my mouth ("a la savage"), and gave several as loud shouts of exultation as my weak lungs would permit, partly for the purpose of giving vent to my feelings of triumph upon the occasion, and also to call the Captain, whom I had left some distance back with the horses. As he did not hear me I went back for him, and on returning to the spot where I had fired upon the panther, we discovered him upon his feet, making off. The Captain gave him another shot as he was running, and then closed in with his rifle clubbed, and it required several vigorous blows, laid on in quick succession, to give him his quietus.

The panther had probably heard the bleat, and was coming towards it with the pleasant anticipation of making his breakfast from a tender fawn; but, fortunately for me, I disappointed him. It occurred to me afterwards that it would not always be consistent with one's safety to use the deer-bleat in this wild country, unless we were perfectly certain we should have our wits about us in the event of a panther or large bear (which is often the case) taking it into his head to give credence to the counterfeit. This was a large specimen of the *Felis con-*

color, or North American cougar, measuring eight feet from his nose to the end of the tail.

June 29.—As we were unable to proceed further up this branch of the river with the wagons, I concluded to leave the main body of the command under charge of Lieut. Updegraff, and, with Capt. McClellan and a small escort of ten men, to push on and endeavor to reach the head spring of this the principal branch of Red river.

Taking provisions for six days, packed upon mules, we went forward this morning over a constant succession of steep, rocky ridges, and deep ravines, in one of which we discovered a grotto in the gypsum rocks, which appeared to have been worn out by the continued action of water, leaving an arched passway, the sides of which were perfectly smooth and symmetrical, and composed of strata of three distinct, bright colors of green, pink, and white, arranged in such peculiar order as to give it an appearance of singular beauty. On our arrival here the men were much exhausted by rapid marching over the rough ground, and were exceedingly thirsty. Fortunately, we found near the mouth of the grotto a spring of very cold water bursting out of the rock; and although it had the peculiar taste of the gypsum, yet they drank large quantities without suffering from it.* Our animals

* As this spring issued directly from the pure gypsum rock, I procured a specimen of the water, which has been analyzed under the direction of Professor W. S. Clark, in the laboratory of Amherst College, and may, I think, be regarded as containing those ingredients which communicate that peculiar disagreeable taste to all the water of this country that flows over a gypsum formation. The analysis resulted as follows:

Water, in fluid ounces.....	4
" in fluid grammes.....	127.500
Hydrosulphuric acid present.....	.011
Chlorine.....	.014
Lime.....	.090

and men being much jaded from travelling over this rough and forbidding country, we turned down towards the river after a short halt at the grotto, and on reaching it found the water still very bitter and unpalatable. As the day was very warm (the thermometer standing, at 12 o'clock M., at 104° Fahrenheit in the shade), with no air stirring, the reflection of the sun's rays from the white sand in the bed of the river made it exceedingly oppressive.

At sundown we bivouacked near a small pool of muddy waters, a little better than that in the river, but still very unpalatable. In despite of this, as we were suffering much from the intense thirst caused by the heat of the day, and from drinking the nauseating water we had met with upon the march, we indulged freely; but instead of allaying thirst, it only served to increase it.

The country over which we have passed to-day, upon both sides of the river, has been cut up by numerous deep gorges extending from the chain of mural escarpments that terminate the "Llano estacado" to the river, and in many of these are small streams of water which issue from springs in the rocky sides of the gorges. We have met with no trees except a species of red cedar, *Juniperus Virginiana*, and a few lonely cotton-woods.

Sulphuric acid227
Soda and magnesia, about130
These elements, united in the form of salts, would give the following results:	
Weight of sulphate of lime219
" " " " magnesia088(?)
" " " " soda073(?)
" " chloride of sodium023
" " hydrosulphuric acid011
Weight of the whole414
Percentage of matter in solution	0.82

The soil is sandy upon the ridges, with blue and red clay in the valleys, and gypsum rocks predominate throughout the formation. The high bluffs to the south of us have gradually approached the river, until, near our encampment, they are only about two hundred yards distant.

June 30.—At daylight this morning we were in the saddle, and, taking the bed of the river, set out at a brisk pace, hoping to find some good water during the day. Our course was very circuitous from being obliged to follow the windings made by the numerous detours in the river. The lofty escarpments which bounded the valley upon each side, rose precipitously from the banks of the river to the enormous height of from five to eight hundred feet; and in many places there was not room for a man to pass between the foot of the acclivities and the river. It was altogether impossible to travel upon either side of the river, so much broken and cut up was the ground, and the only place where a passage for a horse can be found is directly along the defile of the river bed. We found frequent small rivulets flowing into the river through the deep glens upon each side; but, most unfortunately for us, the water in them all was acid and nauseating. We made our noon halt at one of these streams, after travelling fifteen miles over the burning sands of the river bed.

At this time we had become so much affected by the frequent and irresistible use of the water, that most of us experienced a constant burning pain in the stomach, attended with loss of appetite, and the most vehement and feverish thirst. We endeavored to disguise the taste of the water by making coffee with it, but it retained

the same disagreeable properties in that form that it had in the natural state.

At four in the evening we again pushed forward up the river, praying most devoutly that we might reach the termination of the gypsum formation before night, and that the river, which was still of very considerable magnitude, would branch out and soon come to a termination.

Four miles from our halting-place we passed a large affluent coming in from the north, above which there was a very perceptible diminution in the main stream; and in going a few miles further, we passed several more, causing a still greater contraction in its dimensions. All these affluents were similar in character to the parent stream, bordered with lofty and precipitous bluffs, with gypsum veins running through them similar to those upon the main river.

Towards evening we arrived at a point where the river divided into two forks, of about equal dimensions. We followed the left, which appeared somewhat the largest, and here found the bluffs receding several hundred yards from the banks upon each side, leaving a very beautiful and quiet little nook, wholly unlike the stern grandeur of the rugged defile through which we had been passing. This glen was covered with a rich carpet of verdure, and embowered with the foliage of the graceful china and aspen, and its rural and witching loveliness gladdened our hearts and refreshed our eyes, long fatigued with gazing upon frowning crags and deep, shady ravines.

After travelling twenty-five miles we encamped upon the main river, which had now become reduced to one

hundred feet in width, and flowed rapidly over a sandy bed.

Although we were suffering most acutely from the effects of the nauseating and repulsive water in the river, yet we were still under the painful necessity of using it. Several of the men had been taken with violent cramps in the stomach and vomiting, yet they did not murmur; on the contrary, they were cheerful, and indulged in frequent jokes at the expense of those who were sick. The principal topic of conversation with them seemed to be a discussion of the relative merits of the different kinds of fancy iced drinks which could be procured in the cities, and the prices that could be obtained for some of them if they were within reach of our party. Indeed it seems to me that we were not entirely exempt from the agitation of a similar subject; and from the drift of the argument, I have no doubt that a moderate quantity of Croton water, cooled with Boston ice, would have met with as ready a sale in our little mess, as in almost any market that could have been found. If I mistake not, one of the gentlemen offered as high as two thousand dollars for a single bucket of the pure element; but this was one of those few instances in which money was not sufficiently potent to attain the object desired.

We laid ourselves down upon our blankets and endeavored to obliterate the sensation of thirst in the embraces of Morpheus; but so far as I was concerned, my slumbers were continually disturbed by dreams, in which I fancied myself swallowing huge draughts of ice-water.

July 1.—We saddled up at a very early hour this morning, and proceeded on up the river for several

miles, when we found a large affluent putting in from the north; and after travelling a few miles further we passed many more small tributaries, which caused the main stream to contract into the narrow channel of only twenty feet; and its bed, which from its confluence with the Mississippi to this place (with the exception of a ridge of rocks which crosses it near Jonesborough, in Texas) had been sand, suddenly changed to rock, with the water, which before had been turbid, flowing clear and rapidly over it; and, much to our delight, it was entirely free from salts. This was certainly an unlooked-for luxury, as we had everywhere before this found it exceedingly unpalatable. As I before observed, the effect of this water upon us had been to produce sickness at the stomach, attended with loss of appetite, and a most raging and feverish thirst, which constantly impelled us to drink it, although it had a contrary effect upon us from what we desired, increasing rather than allaying thirst.

After undergoing the most intense sufferings from drinking this nauseating fluid, we indulged freely in the pure and delicious element as we ascended along the narrow dell through which the stream found its way. And following up for two miles the tortuous course of the gorge, we reached a point where it became so much obstructed with huge piles of rock, that we were obliged to leave our animals and clamber up the remainder of the distance on foot.

The gigantic escarpments of sandstone, rising to the giddy height of eight hundred feet upon each side, gradually closed in until they were only a few yards apart

and finally united overhead,² leaving a long narrow corridor beneath, at the base of which the head spring of the principal or main branch of Red river takes its rise. This spring bursts out from its cavernous reservoir, and, leaping down over the huge masses of rock below, here commences its long journey to unite with other tributaries in making the Mississippi the noblest river in the universe. Directly at the spring we found three small cotton-wood trees, one of which was blazed, and the fact of our having visited the place, with the date, marked upon it.

On beholding this minute rivulet as it wends its tortuous course down the steep descent of the canyon, it is difficult to realize that it forms the germ of one of the largest and most important rivers in America; floating steamers upon its bosom for nearly two thousand miles, and depositing an alluvion along its borders which renders its valley unsurpassed for fertility.

We took many copious draughts of the cool and refreshing water in the spring, and thereby considered ourselves, with the pleasure we received from the beautiful and majestic scenery around us, amply remunerated for all our fatigue and privations. The magnificence of the views that presented themselves to our eyes as we approached the head of the river, exceeded anything I had ever beheld. It is impossible for me to describe the sensations that came over me, and the exquisite pleasure I experienced, as I gazed upon these grand and novel pictures.

The stupendous escarpments of solid rock, rising precipitously from the bed of the river to such a height

2. The Mexicans called this canyon Arroyo Palo Dura and Arroyo Tierra Blanca.

as, for a great portion of the day, to exclude the rays of the sun, were worn away, by the lapse of time and the action of the water and the weather, into the most fantastic forms, that required but little effort of the imagination to convert into works of art, and all united in forming one of the grandest and most picturesque scenes that can be imagined. We all, with one accord, stopped and gazed with wonder and admiration upon a panorama which was now for the first time exhibited to the eyes of civilized man. Occasionally might be seen a good representation of the towering walls of a castle of the feudal ages, with its giddy battlements pierced with loopholes, and its projecting watch-towers standing out in bold relief upon the azure ground of the pure and transparent sky above. In other places our fancy would metamorphose the escarpments into a bastion front, as perfectly modelled and constructed as if it had been a production of the genius of Vauban, with redoubts and salient angles all arranged in due order. Then, again, we would see a colossal specimen of sculpture representing the human figure, with all the features of the face, which, standing upon its lofty pedestal, overlooks the valley, and seems to have been designed and executed by the Almighty artist as the presiding genius of these dismal solitudes.

All here was crude nature, as it sprang into existence at the fiat of the Almighty architect of the universe, still preserving its primeval type, its unreclaimed sublimity and wildness; and it forcibly inspired me with that veneration which is justly due to the high antiquity of nature's handiworks, and which seems to increase as we consider the solemn and important lesson that is taught us in reflecting upon their continued

permanence when contrasted with our own fleeting and momentary existence.

On climbing up to the summit of the escarpment over the head of the spring, we found ourselves upon the level plain of the "Llano estacado," which spreads out from here in one uninterrupted desert, to the base of the mountains east of the Rio Grande. The geographical position of this point, as determined by courses and distances from the place where we left the wagons, is in latitude $34^{\circ} 42'$ north, and longitude $103^{\circ} 7' 11''$ west; and its approximate elevation above the sea, as determined by frequent and careful barometric observations, is 2,450 feet.³

The geological formation is different here from what it is below, inasmuch as we find no gypsum; and the moment we passed this mineral (which was only about two miles before we reached the head of the river), the water became at once sweet and good.

We have seen numerous bear tracks within the past two days; and occasionally the animals themselves, two of which we killed. Several that we saw, however, escaped; and we had frequent occasions to regret the loss of our bear-dog, as we might have killed many more with his assistance.

John Bull, who still continued to ride the same fractious horse which he had in the buffalo hunt, made a brush with a large bear to-day, but did not succeed in getting alongside of him, as the horse became perfectly mad and unmanageable the moment he got sight of the bear. This is often the case; and there are but few horses that can be made to approach one of these animals.

Several anecdotes, which were related to me by our

3. Probably near the present Canyon, Texas.

guide, concerning the habits of the black bear, would seem to entitle him to a higher position in the scale of animal instinct and sagacity than that of almost any other quadruped. For instance, he says that before making his bed to lie down, the animal invariably goes several hundred yards with the wind, at a distance from his track. Should an enemy now come upon his track, he must approach him with the wind; and with the bear's keen sense of smell, he is almost certain to be made aware of his presence, and has time to escape before he is himself seen.

He also states that when pursued, the bear sometimes takes refuge in caves in the earth or rocks, where the hunter often endeavors, by making a smoke at the entrance, to force him out; but it not unfrequently happens, that instead of coming out when the smoke becomes too oppressive, he very deliberately advances to the fire, and with his fore feet beats upon it until it is extinguished, then retreats into the cave. This he assured me he had seen often. Although these statements would seem to endow bruin with something more than mere animal instinct, and evince a conception of the connexion between cause and effect, yet another anecdote which was related to me would go to prove this curious quadruped one of the most stupid fellows in the brute creation.

My informant says, that when the bear cannot be driven out of the cave by smoke, it sometimes becomes necessary for the hunter to take his rifle, and with a torch to enter the cavern in search of him. One would suppose this a very hazardous undertaking, and that the animal would soon eject the presumptuous intruder; but, on the contrary, as soon as he sees the light

approaching, he sits upright on his haunches, and with his forepaws covers his face and eyes, and remains in this position until the light is removed. Thus the hunter is enabled to approach as close as he desires without danger, and taking deadly aim with his faithful rifle, poor bruin is slain. These facts have been stated to me by three different Indians, in whose veracity I have much confidence, and I have no doubt are strictly true. The black bear is generally harmless unless wounded, or when accompanied by its young, when I have known one of them to pursue a man on horseback several hundred yards in the most furious mood, snapping continually at the legs of the horse.

July 3.—We reached camp⁴ to-day from the head of the river, having returned over the same route that we ascended, and found all anxiously awaiting us. From this point to the head of the river is sixty-five miles, and for about sixty miles of this distance the river runs through a deep defile, the escarpments of which rise from five to eight hundred feet upon each side, and in many places they approach so near the water's edge that there is not room for a man to pass, and it is often necessary to travel for several miles in the bed of the river before a place is found

4. Marcy's course during the latter part of June and early part of July is difficult to trace with reference to present-day nomenclature; nor during the same period can his text be made to correspond exactly with his map.

Dr. Angie Debo and other investigators have gone over the terrain supposed to have been traveled by Marcy during that time, and have attempted in vain to reconcile divergencies in his map and journal for that period. They join with the Editor in the opinion that it is physically impossible to harmonize his journal and map and from them both determine his precise route and camping places from June 26 to July 3. They ascribe his obvious inconsistencies to the fact that he wrote his journal and drew his map from his notes weeks or months after they were made when the lapse of time and possible desire to establish some thesis about the features of the streams in that region led him into error in one or the other.

where a horse can clamber up the precipitous sides of the chasm.

I could not determine in my own mind whether this remarkable defile had been formed, after a long lapse of time, by the continued action of the current, or had been produced by some great convulsion of nature: perhaps both causes have contributed to its formation, some convulsive operation having first given birth to an extensive fissure, and the ceaseless action of the stream having afterwards reduced it to its present condition.

A gentleman who is travelling with us, and who was attached as a captain to Col. McLeod's⁵ expedition to Santa Fe, so graphically described by Mr. Kendall,⁶ recognised a point, near the head of the river, where his command passed. He is of the opinion that the river which they ascended, and supposed at the time to be the principal branch of Red river, must have been the Big Wichita, and they probably passed entirely to the south of the main branch of the river. The fact that they were for a long time upon the plains of the "Llano estacado" would go to confirm this supposition, as anywhere to the north of this stream they would not have encountered much of it.

July 4.—This morning at an early hour we turned our faces towards home, and travelled about five miles down the right bank of the river, when we discovered that the country in advance upon that side was so much broken into deep gullies and abrupt ridges that it would be impracticable to get our wagons over them. We there-

5. Brigadier-general Hugh McLeod.

6. George Wilkins Kendall, *Narrative of the Texan Santa Fe Expedition*, Vols. I-II (New York, 1844).

fore crossed to the north side of the river, where we found a most excellent road over smooth prairie. At our present position we have a pond of excellent water,⁷ with an abundance of hackberry and cotton-wood for fuel. On approaching the pond, Capt. McClellan and myself, who were in advance of the command, espied a huge panther very leisurely walking away in an opposite direction; and as, in hunter's parlance, we "had the wind of him," it enabled us to ride sufficiently near to give him a shot before he discovered us. It took effect and caused him to make a tremendous leap into the air, and, running a short distance, he fell dead. We have also killed four deer to-day, which supplies us with an abundance of fresh meat. Some of the bucks are now very fat, and the venison is superior to any I have ever eaten.

The pond of water at our camp is a very peculiar and strange freak of nature. It is almost round, two hundred and fifty feet in diameter, with the water thirty feet deep, and perfectly transparent and sweet. The surface of the water in this basin is about twenty feet below the banks, and the sides of the depression nearly perpendicular. The country for two or three miles around, in all directions, rises to the height of from one to two hundred feet. As this pond seems to be supplied by springs, and has no visible outlet, it occurred to me that there might possibly be a subterraneous communication which carried off the surplus water and the earth from the depression of the basin.

July 5.—We were in motion this morning at 2 o'clock, keeping down the left bank of the river, in an easterly course over a firm and smooth road for sixteen miles,

7. Appearing on his map as Panther Pond.

when we found ourselves upon a small running creek, the water of which was strongly charged with salts; but as we had filled our casks at the pond, we did not suffer.

We are encamped near a conical-shaped mound, flat upon the top, and are about three miles from the main river.⁸

We find much more mezquite timber upon this branch of the river than upon the other. Indeed, I have never seen much of this wood above the thirty-sixth degree of north latitude; but south of this it appears to increase in quantity and size as far as the 28th degree. Upon the Canadian river I have observed a few small bushes; but the climate in that latitude appears too cold for it to flourish well.

The soil here is sandy, with but little water, and that for the most part of a quality unfit for use. The grama and mezquite grasses are abundant. Our route for the last fifty miles has carried us through an almost continuous dog-town, but as yet we have not been able to secure a live specimen. The latitude at this point is $34^{\circ} 8' 30''$.

July 6.—Our wagons were packed, and we were *en route* before 3 o'clock this morning, but were obliged to deviate from our course very considerably to pass around some deep ravines that extended back to near the crest of the ridge, dividing the middle from the south fork. In this route we traversed a very smooth and elevated rolling prairie, from which we frequently obtained views of the valleys of both branches of the river.

The grama grass, which appears to flourish in this

8. Probably near Memphis in eastern Hall County.

section, is now in process of heading, and will soon be matured.* This most excellent forage for animals does not ripen until quite late in the season, and remains green during most of the winter. I have observed it growing in about the same latitudes as the mezquite trees; but it is most abundant in New Mexico, where it is the predominating grass of the country.

As I was riding at a distance from the train to-day, I saw three Indians, but they immediately passed out of view in a ravine, and were not observed again.

We are encamped this evening upon a very clear and rapid brook; but the water, unfortunately, has the characteristic taste of the gypsum.

There is capital grass upon the creek, and large cotton-wood and hackberry, with a few mulberry trees, which, being the first we have seen for several weeks, has suggested a name for the stream—"Mulberry Creek."⁹

July 7.—We left camp at 2 o'clock this morning, and continued on for three miles over the same description of country as that we passed yesterday, when we arrived at a swift-running creek, twenty-five feet wide and eight inches deep, of clear, cold water; but, as usual,

* Two varieties of grama grass-seed (*Chondrosium foeneum* and *Atheropogon oligostachyum*) were collected and disposed of in the manner mentioned in the following letter:

U. S. PATENT OFFICE,
November 12, 1852.

SIR: The two packages of grama grass-seed from near the sources of Red river, forwarded by you to this office, have been received, and you are requested to accept the thanks of the office for the same. They have already been distributed, in conformity with your suggestions, to gentlemen in the States of Virginia, North Carolina, South Carolina, Georgia, Alabama and Louisiana.

S. H. HODGES.

Capt. R. B. Marcy, New York.

9. Salt Creek in Childress County.

upon tasting it, found it unpalatable.¹⁰ After passing this creek our course was nearly parallel to the river, and from four to twelve miles distant.

The gypsum formation characterizes this section, and has continued from near the head of the river to this place; but as it imparts to the water such disagreeable qualities, we earnestly desire to see no more of it.

One of our Delawares killed a very large wild cat (*Lyncus rufus*) to-day, the skin of which we have preserved.

Our collection of reptiles increases very rapidly, and we now have upwards of a hundred specimens, many of them very beautiful and interesting. Our herbarium is also enlarging daily, and we already have a large collection.

10. Gypsum Creek.

CHAPTER VII

ANTELOPE AND DEER—WITCHITA MOUNTAINS IN SIGHT
—REACH BUFFALO CREEK—VALLEY OF OTTER
CREEK—SALUBRITY OF CLIMATE—DEER-BLEAT—
HORSEFLIES—SCURVY—WITCHITA MOUNTAINS—
PASS THROUGH THE MOUNTAINS—BUFFALO SEEN

July 8.—

OUR train was in motion again at 2 o'clock this morning, and our road led us over very elevated table-lands, near the dividing ridge of the two branches of the river, where the country is totally destitute of wood or water, and altogether devoid of interest until reaching this place, where we find a few small ponds of wretched water and a clump of trees.

In addition to four deer and two antelopes that have been killed by our party to-day, our grayhounds have contributed another deer to our larder.

We have had several good opportunities since we have been upon the plains of witnessing the relative speed of the different animals found here, and our observations have confirmed the opinion I have before advanced. For example, the grayhounds have upon several different occasions run down and captured the deer and the prairie rabbits, which are also considered very fleet; but although they have had very many races with the antelope under favorable circumstances, yet they have never in one instance been able to overtake them; on the contrary, the longer the chase has continued, the greater has been the distance between them. The *Cervus Virginianus* (our red deer) has generally

been considered the fleetest animal upon the continent after the horse, but the *Antilocapra Americana*, or prong-horned antelope of the plains, is very much swifter.

One of our hunters, who has been in advance of our camp, says he obtained a distant view of the Wichita mountains, and that he has also discovered several telegraphic smokes in a northeasterly direction.

July 9.—Getting under way at 2 o'clock this morning, we journeyed over the elevated prairie in a northeast course towards the dividing ridge, and on coming upon the crest of this elevation, some of the most lofty peaks at the western extremity of the Wichita chain of mountains showed themselves in the distance, like smoky clouds against the background of the murky sky near the horizon. Crossing over the ridge, we made for the head of a creek, where we expected to find good water, but upon reaching it we found the gypsum rocks, and, as usual, the water exceedingly bitter and wholly unfit for use. After travelling down this creek for four miles, we encamped at a small pond, containing a liquid which we were obliged to make use of, but it had more the appearance of the drainings from a stable-yard than water.

We find more timber upon the borders of this stream than we have seen since leaving Sweet-water creek; it consists of china, hackberry, cotton-wood, and mulberry. The grass is luxuriant, and the vegetation of the valley has a smiling and verdant aspect, that marks the fertility of the soil.

Four deer have been killed to-day—two of which I was so fortunate as to add to my list: One was also caught by the grayhounds. They have afforded us much

and rare sport by frequent chases, of which the smooth prairie has afforded us a good view.

It is a most beautiful spectacle to mark the slender and graceful figures of the hounds as they strain every muscle to its utmost tension in their eager and rapid pursuit of the panic stricken deer. It is a contest between two of the fleetest and most graceful and beautiful quadrupeds in existence; the one has his life at stake, and the other is animated by all that eager enthusiasm which is characteristic of a thorough-bred animal. They both put forth all the energies with which the Author of their being has endowed them, and seem to fly over the wavy undulations of the plains. Now they are upon the summit of one of these swells, and the startled animal has disappeared in an adjoining ravine, and for a moment the hounds are at fault; but soon they espy him panting up the opposite acclivity, when they are off again like the wind, in hot pursuit, and, rapidly closing upon their devoted victim, they are soon engaged in the death-struggle. This sport is most intensely exciting, and he who would not become interested in it, would hardly be entitled to claim consanguinity with the great family of Nimrod.

The result of our observations for latitude at this position is $34^{\circ} 8' 11''$.

July 10.—As the country over which we had to pass this morning was intersected by numerous abrupt ravines, we were unable to leave camp until daylight.

Our course led us over a high ridge, in an easterly direction for several miles, when we arrived upon the banks of a deep and rapid affluent of the main river, along which we travelled for two miles, encamping near a spring of cold, but brackish water.

We have seen Indian-tracks to-day, made about three days since, and are much astonished that they have not paid us a visit, as some of the different parties we have passed must have seen our trail.

The Wichita mountains have been in sight to the left all day, and our present position is very nearly opposite the western extremity of the chain. The variation of the magnetic needle at this point is $10^{\circ} 45' 30''$ east.

July 11.—Striking our tents at an early hour this morning, we continued down the valley of the creek for ten miles, when we turned to the north and followed for several miles a ridge dividing this from another stream, upon which we are encamped.

The face of the country over which we are now journeying is totally without interest, being arid, sterile, and flat, and presenting no object upon which the eye can rest with pleasure.

The stream at this place is thirty yards wide, two feet deep, with a swift current, and the water brackish. Since we left the head of the Ke-che-a-qui-ho-no, we have found but three places upon the route where the water has been entirely free from salts, and at these places, with one exception, it has been insipid, stagnant, and muddy; yet our animals drink it and appear fond of it. As yet, we have lost none of our stock by death or straying. Our oxen, although they have performed more labor than the mules, are in much better condition; indeed they have been constantly improving, while the others have become somewhat poor and jaded. This goes to confirm me in an opinion I had previously formed as to the comparative powers of endurance of the two different kinds of cattle for long journeys upon

the plains. I have no hesitation in expressing a decided opinion in favor of the oxen.

July 12.—As we anticipated a long march, reveille was sounded at 1 o'clock this morning, and we were *en route* at 2. Taking a course north of east towards a mountain which we recognized as being upon Beaver creek, we reached the confluence of this stream with Red river at 9 o'clock, and crossing a short distance above the junction, encamped in a bend of the creek, where, to the supreme satisfaction of every one in the command, we once more found good running-water, and after being for so long a time deprived of it we enjoyed it exceedingly.¹

When drinking the bad water upon the plains it has often occurred to me that we do not sufficiently appreciate the luxury of good water in those more favored parts of our country, where it everywhere abounds, in the greatest profusion. The suffering produced by the absence of good water in a journey on the plains during the heat of summer months is known only to those who have experienced it. As we have now passed the gypsum range of country, we do not anticipate any more difficulty in finding good water.

We shall remain at this place tomorrow, and on the day following propose to ascend Otter creek to the mountains, and passing down through the chain, shall make a careful and thorough examination of the geological character of the formation, and any other objects of interest that may present themselves in our route.

Red river, above the mouth of Otter creek, which was at a stage above fording when we passed up, is now

1. They have crossed the North Fork of Red River near the mouth of Otter Creek and are again in Tillman County, Oklahoma.

only two feet deep, and flows at the rate of about three miles per hour.

Fresh buffalo-tracks have been seen to-day, and six deer and one turkey brought in by the hunters.

July 13.—This morning, for the first time in several weeks, we have had a rain, which has refreshed and revived the whole face of the country. Previous to this the ground had become so much parched from the lack of moisture, that vegetation was suffering considerably. The herbage in the valley of the creek appears to have felt the drought more than upon the elevated prairies; here it has put on a yellow tinge, and a perfume is emitted from it similar to that of fresh hay, while upon the more elevated plains it still retains its deep green attire. Nine deer have been killed to-day, and I again marked two upon my list.

July 14.—Captain McClellan and myself started out this morning to make an examination of the country along the upper portion of the valley of the creek, while the command crossed and encamped about four miles above our position of last night.

There is much more woodland towards the sources of the stream than I had supposed. Black walnut, pecan, hackberry, elm, and cotton-wood, are among the varieties of timber found here; the mezquite is also abundant near the mountains.

Many of the trees in the bottom are straight and of sufficient dimensions to make good building material, and there is an ample supply for the farmer's purposes. The soil in the valley is for the most part a dark, rich alluvium, sustaining a dense carpet of herbage, and I have no doubt would yield abundant crops of grain.

The stream extends in two principal branches back

to the mountains, where they receive numerous small tributary rivulets flowing from springs. The course of the principal branch is northeast and southwest, and is about twenty miles in length. The mountains here appear to be in groups or clusters of detached peaks of a conical form, indicating a volcanic origin, with smooth, level glades intervening; and rising, as they do, perfectly isolated from all surrounding eminences upon the plateau of the great prairies, their rugged and precipitous granite sides almost denuded of vegetation, they present a very peculiar and imposing feature in the topographical aspect of the country. From the fact that the ground occupying the space between the mountains is a level, smooth surface, and exhibits no evidence of upheaval or distortion, may it not with propriety be inferred that the deposition here is of an origin subsequent to that of the upheaval of the mountains?

July 15.—We were in motion at 2 o'clock this morning; and taking a northeast course towards the base of the mountain chain, passed through mezquite groves, intersected with several brooks of pure water flowing into the south branch of Cache creek, upon one of which we are encamped.

We find the soil good at all places near the mountains and the country well wooded and watered. The grass, consisting of several varieties of the grama, is of superior quality and grows luxuriantly. The climate is salubrious, and the almost constant, cool, and bracing breezes of the summer months, with the entire absence of anything like marshes or stagnant water, remove all sources of noxious malaria, with its attendant evils of autumnal fevers.

I was so fortunate as to kill a very large and fat buck to-day, which adds much relish to the good cheer of our evening meal. Three others having been brought in by the hunters, our larder is at present well stocked with meat. Indeed, there has been but a small portion of the time since we have been out that our excellent hunters have not supplied the entire command with an abundance of fresh meat. Although we have beef-cattle in the train, we have as yet had no occasion to make use of one of them.

One of the Delawares has seen fresh buffalo-tracks to-day going to the southeast, and we still cherish the hope that we may yet encounter them.

John Bushman, our interpreter, was much surprised to-day, on calling a doe towards him with a deer-bleat, to see a small fawn following after its mother; but imagine his astonishment, when immediately behind the fawn came a huge panther bounding rapidly towards him, and in a twinkling he fastened his claws in the vitals of his victim. He, however, in this instance, caught a tartar, and paid dearly for his temerity, as John, with a spirit of indignation that would have done credit to the better feelings of any man, raised his rifle, and, instead of killing the deer, which was entirely at his mercy, planted the contents in the side of the panther.

The method of hunting deer by the use of the bleat is practised extensively by the Delawares in this country, and with great success.

They make the bleat somewhat similar to the first joint of a clarionet, with a brass reed scraped very thin, and applied in the same manner as upon the clarionet, and so regulate and adjust the instrument

by experiment as to imitate almost precisely the cry of the young fawn. They use them during the months of June and July, before the does have weaned their young. Riding along near a copse of trees or brush where they suppose the deer to be lying, they sound their bleats, which can be heard for half a mile; and as the doe never remains near her fawn any longer than is necessary to give it food (when she retires to an adjoining thicket and makes her bed alone), she immediately takes alarm at what she conceives to be a cry of distress from her helpless offspring, and, in the intensity of her maternal affection, she rushes at full speed in the direction of the cry, and frequently comes within a few yards of the hunter, who stands ready to give her a death-wound. This is an unsportsmanlike way of hunting deer, and only admissible when provisions are scarce.

The bear, the wolf, the panther often come at the call of the bleat, supposing they are to feast upon the tender flesh of the fawn. It might be supposed that in a country where there are so many carnivorous animals, the greater portion of the deer would be killed by them while young; but nature, in the wisdom of its arrangements, has provided the helpless little quadruped with a means of security against their attacks, which is truly wonderful. It is a well-known fact among hunters that the deer deposit a much stronger scent upon their tracks than any other animal, inasmuch as a dog can without difficulty follow them long after they have passed at a distance of many yards from the track. Notwithstanding this, the fawns, until they are sufficiently grown to be able to make good running, give out no scent whatever upon their tracks, and a dog of the best nose cannot follow them except by sight. I have often seen the ex-

periment made, and am perfectly satisfied that such is the case; this, therefore, must in a great measure protect them from the attacks of the wild animals of the country.

July 16.—Our reveille sounded at two, and we were *en route* at 3 o'clock this morning. Continuing a north-east course for four miles, we crossed a fine stream of clear water issuing from the mountains and running into the south branch of Cache creek; after travelling three miles further we passed another, and made our encampment upon a third; all of these were of about equal magnitude, and similar in character. They take their rise from springs among the granite mountains, and flow over the detritus and sand at the base; are about twenty feet wide, with the water clear and rapid. The banks are abrupt, about ten feet high, and composed of white clay and sandstone. Upon each of these branches there are large bodies of post-oak timber, much of which would serve as building-material, and near the bank of the creek we observed black-walnut.

Within a distance of six miles around our camp, I should estimate the amount of woodland at eight thousand acres. The grass is of the very best quality, and the soil cannot be surpassed for fertility.

We are, at this place, directly at the base of one of the most lofty and rugged mountains of the range. Its bare and naked sides are almost destitute of anything in the shape of a tree or plant, and it is only here and there that a small patch of green can be discerned. Huge masses of flesh-colored granite, standing out in jagged crags upon the lofty acclivities, everywhere present themselves to the eye, and the scenery is most picturesque, grand, and imposing.

We have for a few days past been much annoyed with a species of large, black horsefly, which attacks the animals most savagely, and leaves his red mark wherever he touches them. These, with a species of small black gnat, are the only insects that we have been troubled with.

The two men who for several weeks have been suffering from the scurvy are no better, and I am fearful, if we do not find the wild onion soon, that they will be in a bad state.

I have caused all the men of the command to use freely what few anti-scorbutics we were enabled to procure from the subsistence department, as also all the wild vegetables that could be obtained upon the march; but these do not seem sufficient to fend off the disease, when men have for a long time been confined exclusively to animal diet and constantly subjected to other causes that predispose the system to the disease.

The soldiers are by no means anxious to make use of the anti-scorbutics from the commissary department, as they are obliged to pay for them by submitting to a deduction in the amount of the ration, which, at most, is a very small allowance for men who are marching or laboring hard. This fact is so well established, that when citizen teamsters are employed in the quartermaster's department, it is either necessary to give them an allowance of fifty per cent more in the amount of provisions than the soldier gets, or an addition to his pay to enable him to purchase an equivalent. Doctor Shumard has made use of all the remedies in his possession in the cases of scurvy that have been under his treatment, but he is of opinion that they avail but

little in the absence of vegetable diet. Our men have discovered some green grapes to-day, which I hope may relieve the sick men. Several gentlemen of the party ascended the mountain near our camp this evening, and obtained a fine view of the adjoining country. They discovered that there were three distinct ranges running from northeast to southwest; at this place they appear to be united in one chain, but there seems to be no pass practicable for wagons in this vicinity.

July 17.—Moving out from camp at half-past three this morning, we journeyed along the southeastern base of the mountains, passing several spring-brooks of cold, delicious water, flowing from the deep gorges of the mountain, over the masses of loose rock at the base, into the valley below. These brooks are perennial, and this being the dry season, they are probably now at their lowest stage, yet there is a sufficiency of water for all purposes of farmers and for milling.²

The soil continues of an excellent quality, and sustains a heavy vegetation. In addition to the advantages of rich soil, good timber, and water, which everywhere abound near the mountains thus far upon our route, may be added that of the great salubrity of the climate.

The atmosphere in these elevated regions is cool, elastic, and bracing, and the breezes which sweep across the prairie temper the heat of the sun, and render it, even in midsummer, cool and comfortable.

The different branches of Cache creek drain a large extent of country, which might be made available for agricultural purposes, and would be sufficient to sustain a large population.

2. During the past three days they have been traveling east through Kiowa and Comanche counties.

The particular district embracing the Wichita mountains has for many years been occupied and (with much justice, it seems to me) claimed by the Wichita Indians, who have a tradition that their original progenitor issued from the rocks of these mountains, and that the Great Spirit gave him and his posterity the country in the vicinity for a heritage, and here they continued to live and plant corn for a long time.

Notwithstanding this claim of the Wichitas, which the right of occupancy and possession has guaranteed to them, yet the whole of this beautiful country, as far as the 100th degree of west longitude, is included in the grant made by the United States to the Choctaws, who thereby possess the greater part of the lands upon Upper Red river that are really valuable.

The Wichitas are an insignificant tribe in point of numbers, not having more than about five hundred souls in the nation, and are not, of course, prepared to substantiate or enforce their title to this country; and indeed, I very much doubt if they have any claims upon the consideration or generosity of our government, being the most notorious and inveterate horse-thieves upon the borders, as the early frontier settlers of Texas can vouch for; and they are only held in restraint now by fear of the troops near them. They have always been extremely jealous of the motives of the white people who have wished to penetrate to the interior of their country, and have, upon several occasions, driven off parties who have attempted to examine the country about the Wichita mountains.

We are encamped this evening upon a swift-running brook, near a very cold spring of pure water, which affords a delightful contrast to the water we have met

with upon the Ke-che-a-qui-ho-no. Following up the large brook into which the spring empties, I found its source in a most lovely valley, about two miles above our encampment.

This valley, which is enclosed on three sides by lofty and rugged mountains, is mostly covered with a heavy growth of timber of a very superior quality. The trees, which are oak, are large, straight, and tall, and are the best suited to the carpenter's purposes of any I have ever seen west of the "Cross-Timbers." The soil here possesses great fertility, and the whole valley teems with an exuberance of verdure.

July 18.—We changed our course this morning to the north, and passing up the valley of the creek, found a gap or pass in the first chain of mountains, through which, after much difficulty, we succeeded in forcing our wagons. This gap, although not very elevated, was broken up into deep and narrow gorges, filled with the angular debris of the adjoining heights, over which it required great care and patience to pass our train in safety. We, however, finally succeeded in reaching the open prairie, upon the north, and found ourselves on the banks of a large stream, upon which we made our encampment.³ Our position is directly at the base of the most elevated mountain in the Wichita chain, which I have taken the liberty, in honor of our distinguished commanding general, to call "Mount Scott." This peak, towering as it does above all surrounding eminences, presents a very imposing feature in the landscape, and is a conspicuous landmark for many miles around. The altitude above the base, as determined by

3. They are encamped on Medicine Bluff Creek.

triangulation with the sextant, is eleven hundred and thirty-five feet.

To the north of Mount Scott lies one of the most beautiful and romantic valleys that I have ever seen. It is about three miles wide, enclosed between two ranges of the mountains, and through its centre, winds a lovely stream of pure water, fifty yards wide and two feet deep, the lively current of which rushes wildly down over an almost continuous succession of rapids and rocky defiles. It is fringed upon each side with gigantic pecan, overcup (*Quercus macrocarpa*), white-ash (*Fraxinus Americana*), River-elm (*Ulmus memoralis*), and hackberry trees (*Celtis*). About the base of the mountains we find an abundance of post-oak (*Quercus obtusiloba*), and towards the summits, the red cedar (*Juniperus Virginiana*) grows.

The soil in this valley is highly productive, and sustains a heavy vegetation. The grass is very dense, of a good quality, and from two to three feet high; and were it not for the large flies that continue to phlebotomize our animals, they would luxuriate here.

Towards sundown I took my rifle, and, mounting a small Indian pony belonging to my negro servant, started up the creek for the purpose of hunting deer. After I had gone about two miles from camp, I suddenly discovered a buffalo bull very quietly cropping the grass under some oak trees near the creek. No sooner, however, did I see him, than, raising his head and giving one look in the direction I was approaching, he set off at a spanking gallop over the prairie. I applied the rowels most vigorously to the diminutive beast which I bestrode, and endeavored, by making a cut-off over the hills, to get within rifle range; but after exhausting all the efforts

of the pony, I only found myself within about two hundred yards of the buffalo, and gave him a running salute as he passed, but did not observe him falter or make the slightest diminution in his speed; whereupon I reluctantly abandoned the chase and returned to camp.

CHAPTER VIII

OLD INDIAN VILLAGES—BEAUTIFUL SCENERY—TRAP FORMATION—LOST MULE—BEAVER CREEK—PRAIRIE GUIDES—RUSH CREEK—WITCHITA AND WACO VILLAGES—MEXICAN PRISONERS—TALK WITH THE INDIANS—CROSS TIMBERS—KICKAPOOS—STRIKE WAGON TRACK—ARRIVAL AT FORT ARBUCKLE

July 19.—

AT daylight this morning we crossed the creek after having excavated a passage for the wagons in the high banks, and travelled down the valley along the outer border of the timber in the bottom. The country over which we marched was of a similar character to that described about our last camp, and equally beautiful. We passed two old Indian villages, which John Bull, one of the hunters, says were formerly occupied by the Wichitas and Keechis; several of the lodges were still standing, with their old corn-fields near by.

Our camp is upon the creek about a mile above the village¹ last occupied by the Wichitas before they left the mountains. Here they lived and planted corn for several years, and they have exhibited much taste and judgment in the selection of the site for their town. It is situated at the eastern extremity of the mountains, upon a plateau directly along the south bank of the creek, and elevated about a hundred feet above it, commanding an extended view of the country towards the north, south, and east. From its commanding position it is well secured against surprise, and is by nature altogether one of the most defensible places I have seen.

1. They are at the site of the future Fort Sill.

The landscape which is here presented to the eye has a most charming diversity of scenery, consisting of mountains, wood-lands, glades, water-courses, and prairies, all laid out and arranged in such peculiar order as to produce a witching effect upon the senses.

This must have been a favorite spot for the Indians; and why they have abandoned it I cannot imagine, unless it was through fear of the Comanches. It is only two years since they removed from here,² and their lodge-frames are still standing, with the scaffolds upon which they dried their corn.

The soil, in point of fertility, surpasses anything we have before seen, and the vegetation in the old corn-fields is so dense, that it was with great difficulty I could force my horse through it. It consisted of rank weeds, growing to the height of twelve feet. Soil of this character must have produced an enormous yield of corn. The timber is sufficiently abundant for all purposes of the agriculturist, and of a superior quality. Most of the

2. Colonel Dodge's Dragoon expedition in 1834 found the Wichita Indians living at the Devil's Canyon on the North Fork of Red River. In the summer of 1837 they were visited by a devastating siege of small-pox; so many died and there were so many sick that in some instances there were not enough well persons to remove the dead from the lodges (Grant Foreman, *Pioneer Days in the Early Southwest*, p. 235). Following this they were attacked by the Pani Maha (Skidi) Indians, who destroyed their village, and they were forced to flee to the Red River where they lived for a time with the Waco Indians. They later came to the vicinity of the future Fort Sill where Marcy saw the remains of their village. There was another and probably older Wichita village ten miles higher up Cache Creek seen by Douglas H. Cooper in 1858 ("A Journal Kept by Douglas H. Cooper," edited by Grant Foreman, *Chronicles of Oklahoma*, V, 381). Cooper strongly recommended the lower site as the location of the new fort then being considered. The Wichita Indians were attacked at one of these sites in 1846; their village and mud fort were destroyed and many people killed (Grant Foreman, *Advancing the Frontier*, p. 240). It was probably then they removed from the upper to the lower site where they lived until 1850 when Captain Marcy says they left; the next location was at Rush Springs to be described by Marcy herein.

varieties of hard wood, such as overcup, post-oak, black-walnut, pecan, hackberry, ash, black or Spanish oak (*Quercus elongata*), elm, and china, besides cotton-wood and willow, are found here. We also found the wild passion flower (*Passiflora incarnata*), and a beautiful variety of the sensitive plant which we have not met with before.

Directly opposite the village, upon the north side, there is a large body of timber which extends across the eastern branch of Cache creek; this unites with the branch upon which we are encamped, about a mile below the village.

Upon the south bank of the creek there is an immense natural meadow, clothed with luxuriant grasses, where hay might be procured sufficient to subsist immense numbers of cattle. Opposite our camp the creek flows directly at the base of a perpendicular wall of porphyritic trap, three hundred feet high, and studded with dwarf cedars, which, taking shallow root in the crevices of the formation, receive their meagre sustenance from the scanty decomposition of the rocks. This escarpment has a columnar structure, with the flutings parallel and traversing the face in a vertical direction from top to bottom, and has the appearance of being the vertical section of a round hill that has been cleft asunder and one half removed, there being no appearance of a continuation of the formation upon the opposite bank of the creek. All the sides of this hill, except that upon the creek, are smooth, with gentle and easy slopes, covered with grass up to the very verge of the acclivity. On riding up the smooth ascent of this eminence, and suddenly coming upon the edge of the giddy precipice, one involuntarily recoils back with a shudder at the

appearance of this strange freak of nature. Large veins of quartz were seen traversing this formation, and upon an examination of specimens we found it to be cellular or spongy, with the cells filled with liquid naphtha of about the consistence of tar, and having a strong resinous odor.

We have now reached the eastern extremity of the Wichita chain of mountains, and shall to-morrow morning cross the main creek below the village and strike our course for Fort Arbuckle, this being the nearest military post, and in our course for Fort Smith.

The more we have seen of the country about these mountains, the more pleased we have been with it. Indeed, I have never visited any country that in my opinion possessed greater natural local advantages for agriculture than this. Bounteous nature seems here to have strewed her favors with a lavish hand and to have held out every inducement for civilized man to occupy it. The numerous tributaries of Cache creek flowing from granite fountains, and winding like net-work in every direction through the valleys in the mountains—with the advantages of good timber, soil and grass, the pure, elastic, and delicious climate, with a bracing atmosphere—all unite in presenting rare inducements to the husbandman. It would only be necessary for our practical farmers to visit this locality; they could not be otherwise than pleased with it. And were it not for the fact that the greater part of the most desirable lands lie east of the 100th meridian of longitude, and within the limits of that vast territory ceded by our government to the Choctaws, it would be purchased and settled by our citizens in a very few years. As it is now situated far beyond the limits of the settlements, and directly within

the range of the Comanches, it is of no use to the Choctaws themselves, as they do not venture among the prairie tribes, and do not even know the character of this part of their own territory. They have a superabundance of fertile lands bordering upon the Red and Canadian rivers, near the white settlements of Texas and Arkansas, and they prefer occupying those to going further out. They have thrown aside their primitive habits in a great degree, and abandoned the precarious and uncertain life of the hunter for the more quiet avocation of the husbandman. They look upon the wild Indian in much the same light as we do, and do not go among them; indeed, there is but little in common with them and the wild Indians.*

[*July 20*].—In consequence of losing one of our mules last night, we were detained later than usual this morning. Two of the Delawares went out at day-light in search of it, but returned in about two hours, not having been able to strike the track. We had up to this time been so fortunate as to lose no animals. I was therefore particularly desirous that the lost mule should be recovered, and intimated as much to our interpreter, John Bushman, who had not joined in the first search. At the same time, I asked him what he thought were the chances of success. He replied, in his laconic and non-committal style, "I think maybe so find um—maybe not." I directed him to make an effort, and not give over the search as long as there remained the least

*The lands included within the Choctaw reservation, which are not occupied or made use of by them, are embraced within the 97th and 100th degrees of west longitude, and are bounded upon the north and south by the Canadian and Red rivers, being about one hundred and eighty miles in length by fifty in width, and constituting an aggregate of about nine thousand square miles of valuable and productive lands, or one thousand square miles more than the State of Massachusetts.

prospect of success. We then packed our wagons and started on towards Fort Arbuckle, crossing the creek below the old village, where it was forty yards wide and ten inches deep, with a rapid current flowing over a bed of gravel.

Upon the east bank of the creek we passed over a broad and level piece of bottom-land, covered with a dense crop of wild rice, and other rich grasses. We then left the valley in a course north of east, over the ridge dividing Cache from Beaver creek, until we reached a branch of the latter, upon which we encamped. The timber here is large and abundant; the water fresh, but standing in pools; and the soil good. I have crossed this same stream at four different places below here, and have invariably found the soil of a similar character and the timber large, consisting of pecan, elm, hackberry, oak, cotton-wood, and walnut, and generally confined to the borders of the stream.

Our most excellent and indefatigable hunter, John Bushman, returned this evening with the lost mule, having tracked him for twenty miles from where he left us. He had also killed a buffalo during the day, and brought us a piece of the hump. He states that from the time the mule left us until he overtook him he had continued to travel without stopping, directly to the north, and at right-angles to the course we had been pursuing. I inquired of him if he did not become almost discouraged before he came up with the animal. He said no; that I had ordered him not to return without him, and that he should have been on the track yet if he had not overtaken him. I have no doubt such would have been the case, for he is a man of eminently determinate and resolute character, with

great powers of endurance, and a most acute and vigilant observer, accompanied by prominent organs of locality and sound judgment. These traits of character, with the abundant experience he has had upon the plains, make him one of the very best guides I have ever met with. He never sees a place once without instantly recognizing it on seeing it the second time, notwithstanding he may approach it from a different direction; and the very moment he takes a glance over a district of country he has never seen before, he will almost invariably point out the particular localities (if there are any such) where water can be found, when to others there seems to be nothing to indicate it. Such qualifications render the services of these people highly important, and almost indispensable in a tour upon the prairies.

An incident which was related to me as occurring with one of these guides a few years since, forcibly illustrates their character. The officer having charge of the party to which he was attached sent him out to examine a trail he had met with on the prairie, for the purpose of ascertaining where it would lead to. The guide, after following it as far as he supposed he would be required to do, returned and reported that it led off into the prairies to no particular place, so far as he could discover. He was told that this was not satisfactory, and directed to take the trail again and to follow it until he gained the required information. He accordingly went out the second time, but did not return that day, nor the next, and the party, after a time, began to be alarmed for his safety, fearing he might have been killed by the Indians. Days and weeks passed by, but still nothing was heard of the guide, until, on

arriving at the first border settlement, to their astonishment, he made his appearance among them, and, approaching the commanding officer said, "Captain that trail which you ordered me to follow terminates here." He had, with indomitable and resolute energy, traversed alone several hundred miles of wild and desolate prairie, with nothing but his gun to depend upon for a subsistence, determined this time to carry out the instructions of his employer to the letter.

July 21.—We crossed two small branches this morning at four o'clock, and continued our course over undulating prairies, with smooth and even surfaces, frequently crossing small affluents of Beaver creek, where we found good running spring water, which can always be relied upon.³

We had a copious shower this morning, which is the first rain that has fallen in several weeks.

There is good timber and grass upon all the branches we have passed to-day, and the soil is highly productive. We have also passed several groves of post-oak timber upon the ridges; this, however, for the most part, is small, short and scrubby.

July 22.—Making an early start, at two o'clock this morning, we ascended the eastern branch of Beaver creek to its source, when we found ourselves upon the ridge dividing this stream from Rush creek. The ridge is covered with timber similar to that of the Cross Timbers, consisting of post-oak and blackjack (*Quercus ferruginea*).

Our road leads for five miles⁴ through this timber,

3. They have camped near the site of Sterling.

4. They have measured the distance traveled with an odometer, a wheel about four and one-half feet in diameter, making about 390 revolutions to the mile.

when it emerges into a beautiful meadow, where the head of one of the branches of Rush creek takes its rise in large springs, and runs off in a fine bold stream, with a variety of hard timber along its borders. After following down this about two miles, we suddenly came in sight of several squaws who were collecting the tall grass which grows along the banks of the creek. They no sooner espied us than they jumped upon their horses and were about making off; most of them, however, stopped at the command of our interpreter, while one or two galloped away in the direction of the village to give notice of our approach. They proved to be Wacos and Witchitas, and informed us that their villages were about four miles in advance, at the same time inviting us to pay them a visit. We reached the villages (which were situated upon the banks of Rush creek) and encamped about half a mile below them in the valley.⁵

Immediately on our arrival we were accosted by a large crowd of men, who were anxious to learn where we had been, and whether we had seen any Comanches; and as we were (I think) the first party of whites who had visited them at this place, they appeared very glad to see us—probably in anticipation of presents.

There are two villages here occupied by the Witchitas and Wacos respectively; they are situated in the rich fertile valley of the creek, where they have cultivated corn, pumpkins, beans, peas, and melons. These people have no ploughs, or other agricultural implements, but a small hoe, with which they prepare the ground for the reception of the seed, and do all other necessary work in its cultivation; yet the prolific soil gives them bountiful

5. Marcy's command has traveled through Comanche County and is now near the site of the future Rush Springs.

returns; and were it not for their improvident natures, they might, with little labor, have sufficient for the whole year. Instead of this, they only care for the present, and from the time the corn is fit for roasting, are continually eating and feasting until it is gone. They are then obliged to depend upon the precarious results of the chase during the remainder of the year.

The village of the Wichitas has forty-two lodges, each containing two families of about ten persons. These lodges are made by erecting a frame-work of poles placed in a circle in the ground, with the tops united in an oval form, and bound together with numerous withes or wattles, the whole nicely thatched with grass; and when completed, it makes a very commodious and comfortable domicile. The interior arrangements are such, that every person has a bunk, raised from the ground and covered with buffalo-hides, forming a couch which is far from being uncomfortable. When seated around their fires in the centre of the lodges, they have an air of domestic happiness about them which I did not expect to find.⁶

The lodges are about twenty-five feet in diameter at the base, twenty feet high, and in the distance have very much the appearance of a group of hay-stacks. With the exception of a few families that live upon the Canadian, the whole Wichita nation is concentrated

6. In the autumn of 1858 a company of Comanche Indians under their chief, Buffalo Humps, visited the Wichita Indians to have a friendly talk with them, the Chickasaw and Choctaw Indians. Here a force of four hundred cavalymen under Major Van Dorn fell upon the Comanche Indians of whom sixty were killed. The soldiers also killed four Wichita Indians and destroyed their fields. The Comanche Indians unjustly suspected they had been betrayed to the attackers by the Wichitas, and the latter in fear of reprisal abandoned their village and fled to Fort Arbuckle for food and protection (Grant Foreman, *Advancing the Frontier*, p. 294).

at this place; their numbers do not exceed five hundred souls. They have during the early settlement of Texas given more trouble to the people upon the northern borders of that State than any other Indians. They have no regard for truth, will steal, and are wholly unworthy of the least confidence, and their vicious propensities are only kept in check now from fear.

Living as they do, between the white settlements and the prairie tribes, they are at the mercy of both; they seem to be conscious of this fact, and express a desire to be on terms of friendship with all their neighbors. At my urgent request they presented us with several bushels of green corn this evening, which was very acceptable, as we had seen no vegetables for several months.

The Wacos live about a mile above the Witchitas, in a village constructed precisely like the other. There are twenty lodges in this village, and about two hundred souls. Their habits and customs are similar to the Witchitas, with whom they frequently intermarry, and are upon the best and most friendly terms.

Both of these tribes subsist for a great portion of the year upon buffalo and deer, and wear the buffalo robes, like the Comanches. They also use the bow and arrow for killing game; some of them, however, are provided with rifles, and are good shots. They have a large stock of horses and mules, many of which are the small Spanish breed with the Mexican brand upon them, and have probably been obtained from the prairie tribes; while others are large, well-formed animals, and have undoubtedly been stolen from the border white settlers.

We learned from the Witchitas, much to our surprise, that a report had been made to the commanding officer

at Fort Arbuckle, by a Keechi Indian, to the effect that our whole party had been overpowered and massacred by the Comanches near the head of Red river. This information must have originated with the Comanches or Kioways, as they are the only tribes inhabiting the country about the sources of the river; neither the Keechis nor the Witchitas ever venture as far out into the plains as we have been.

The account given by the Indian was so circumstantial and minute in every particular, showing a perfect knowledge of all our movements, with our numbers and equipment, that the information was evidently communicated by persons who were near us at the time, and observing our movements. This accounts for the fact of their avoiding us upon all occasions, although we saw them several times, as has been observed, and frequently passed their camps that had been abandoned but a short time, yet they never came to us, or communicated with us. They probably regarded us as out upon a hostile expedition, going into their country to chastise them for their depredations, and may have supposed that the report of our having been massacred would deter other parties from following us.

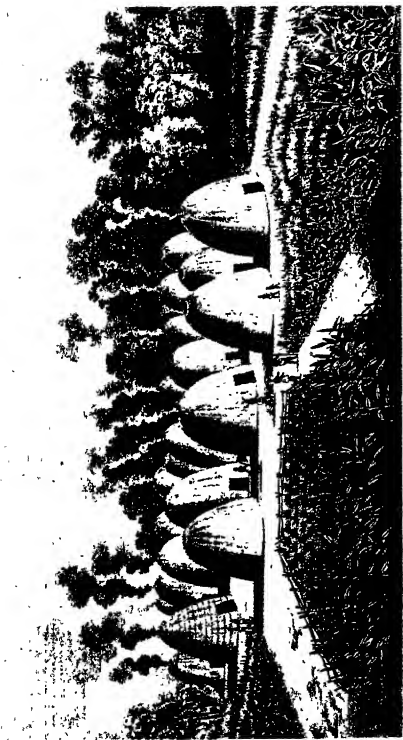
The old chief of the Witchitas (To-se-quash) informed us that Pah-hah-en-ka's band of the "Middle Comanches," in consequence of some of their people having been killed near one of the military posts in Texas, were much exasperated, and had burnt up the testimonials of good character given to them by United States authorities. They had always before preserved these papers with great care, and manifested much pride and satisfaction in exhibiting them to strangers. To-se-

quash says they are now "very mad," and will fight us whenever they meet us.

July 23.—As it rained during the night, and still continues, we did not move forward to-day. During the morning I sent for the chiefs of the two villages, for the purpose of endeavoring to persuade them to surrender to me two Mexican prisoners in their possession: one a man about forty years of age, and the other a boy of fifteen. The man stated that he had been with the Witchitas since he was a child, and he was not now disposed to leave them; that he had become as great a rascal as any of the Indians (which I gave full credence to), and should not feel at home anywhere else.

It appeared, however, that the boy had only been with them a few months. He states that he was kidnapped by the Kioways from his home near Chihuahua; that in consequence of their brutal treatment he escaped and made his way to the Wichita mountains, where a Wichita hunter found him in nearly a famished state, and brought him to this place. He says he has been kindly treated by the Witchitas, but is anxious to leave them and go with us. He appears to be very intelligent, and reads and writes in his own language.

In a talk with the chiefs, I told them that the American people were now on terms of friendship with the Mexicans, and in a treaty we had obligated ourselves to return to them all prisoners in the hands of Indians in our territory, and to prevent further depredations being committed upon them; that the principal chief of the whites (the President) would not regard any tribe of Indians as friends who acted in violation of this treaty; that he confidently hoped and expected all the tribes who were friendly to our people would comply strictly



Wichita village on Rush Creek

with the requirements of the treaty, and give up all prisoners in their possession. I then requested them to release to me the boy, and told them if they did this I should make them some presents of articles that had been sent out by the President for such of his red children as were his friends. They hesitated for a long time, stating that the boy belonged to a Waco, and he loved him so much, that it was doubtful if he could be persuaded to part with him. Whereupon I told them that if they released the boy quietly, I should reward them; but otherwise I had determined to take him from them by force, and if compelled to resort to this course, should give them nothing in return. This appeared to have the desired effect, and they said if I would make the family into which he had been adopted a few presents, in addition to what I had promised them, they would release him. I accordingly distributed the presents, and took possession of the boy. Upon turning him over to us they divested him of the few rags of covering that hung about his person and reluctantly gave him to us, and he makes his exit from the Wichita nation in the same costume in which he entered the world. We soon had him comfortably clothed, and he is much delighted with the change. Captain McClellan will take him to San Antonio, from which place he will communicate with his relatives.

July 24.—We left the Wichita village at 4 o'clock this morning, and intended to have followed the trail which the Indians travel to Fort Arbuckle, but soon discovered that it crossed numerous brooks running through deep gullies impassable for wagons, which made it necessary for us to turn south towards the dividing ridge between Rush creek and Wild Horse creek. We

followed this ridge for seven miles, and encamped upon a small affluent of Wild Horse creek. In our march to-day we passed over an elevated waving country, interspersed with groves of oak. Upon each side of the dividing ridge are numerous small spring branches, flowing off to the right and left, and upon these there is an abundance of good timber with soil of the best quality. We have passed the range of the grama grass, but still find the mezquite and other varieties of wild grasses, upon which our animals continue to thrive, and keep in excellent condition. After we had proceeded some ten miles upon our march this morning, we discovered that our friends the Wichitas had, in the characteristic style of their hospitality, abstracted from one of our wagons several articles which they probably supposed would be more useful to them than to us. Unfortunately, we were too far from the village to admit of going back and making them restore the articles. Our Spanish boy states that before he left, they advised him to seize the first opportunity that should offer to steal one of our horses, and make his escape to them.

July 25.—Our wagons were packed, and we were in motion at about 3 o'clock this morning, in a course nearly due east, down the right bank of Wild Horse creek for eight miles,⁷ when we entered the Cross-Timbers upon the ridge dividing this stream from Mud creek (an affluent of Red river which puts in above the Washita). Our encampment this evening is upon the border of a ravine in the timber, where we find good water and grass.

In our march to-day we have passed the heads of

7. The expedition is traveling east of Duncan on the south side of Wild Horse Creek.

several branches running into Wild Horse, Beaver, Rush, and Mud creeks, upon all of which there is an exuberant vegetation, denoting a fertile soil. The timber is abundant and of a good quality, and the water, issuing from springs, is perennial. I have passed through the Cross-Timbers at five different points before this, and have always found them similar in character and composition.

Some Kickapoo hunters came into camp this evening, and we could not but remark the striking contrast between them and the Wichitas. They were fine-looking, well-dressed young men, with open, frank and intelligent countenances, and seemed to scorn the idea of begging; while the others, as has been observed, are incessantly begging every article they see, and do not possess the slightest gratitude for favors received.

July 26.—At daylight this morning we resumed our march through the Cross-Timbers, keeping the dividing ridge for two miles, when we turned to the left and passed down near Wild Horse creek; but we found small streams, with abrupt banks, crossing our course so frequently that we had much difficulty in making progress. We, however, by hard labor in digging down banks and cutting through dense thickets, succeeded in making eight miles, and encamped upon a small spring branch in the Cross-Timbers. A short distance before we reached our present position we fell into an old Indian trail, where some wagons had passed several years before. We noticed where several small trees had been cut, and where the bark had been scraped off from others by the ends of the axles as they passed along.

July 27.—As soon as it was sufficiently light to enable us to see the trail this morning, we started on, keeping the

old wagon trace through the timber for eight miles, when it led us into a road I had made the last season,⁸ between Fort Arbuckle and Fort Belknap, at a point fourteen miles from the former post. As soon as the men came in sight of this, they gave a prolonged and simultaneous shout of joy; it seemed to them like greeting an old familiar acquaintance: it was the first place they had recognized in several months, and it brought them near home.

The axes and spades were laid by in the wagons, as our labors in road-making terminate here; and I have no doubt the command are heartily rejoiced upon the occasion, as their duty since we left the Wichita mountains has been very laborious. Two miles after striking the road we emerged from the Cross-Timbers, and passing over a range of low mountains lying south of Wild Horse Creek valley, encamped nine miles from Fort Arbuckle.

July 28.—At one o'clock this morning we were upon the road again, and at daylight marched into Fort Arbuckle, where we found our friends much astonished and delighted at our sudden appearance among them, when they had supposed us all massacred by the Comanches.⁹ We are much indebted to the kind hospi-

8. While commanding an escort for Gen. W. G. Belknap.

9. This hoax was perpetrated by a company of Waco Indians who came to Fort Arbuckle. They told the officers that they had recently been in a camp of Comanches who boasted of having massacred Marcy's entire command. They were reported as saying that in company with some Kiowas they stampeded all of Marcy's horses and mules and at daylight commenced an attack that was kept up all day. At night the Indians camped around Marcy and the next morning renewed their offensive, which they continued until every man in Marcy's command was killed.

The story was published in the *Texas Gazette* and the *Fort Smith Herald* and copied all over the country with many expressions of pain and sorrow. However, on July 29 the *Whig* of Little Rock published an extra containing

talities of the officers stationed here for the generous supply of vegetables with which they furnished our entire command during our stay with them. After an exclusive diet of meat and bread for several months, we could not have had a more welcome present than the fine fresh vegetables which their gardens afforded.

I shall remain here¹⁰ for two or three days to dispose of the stores on our hands, recruit our animals, and get the company in readiness to return to its station at Fort Belknap, under charge of Lieutenant Updegraff.

I feel a sincere regret at parting with the company, as the uniform good conduct of the men during the entire march of about a thousand miles merits my most sincere and heartfelt approbation. I have seldom had occasion even to reprimand one of them. All have performed the arduous duties assigned them with the utmost alacrity and good will; and when (as was sometimes the case) we were obliged to make long marches, and drink the most disgusting water for several days together, instead of murmuring and making complaints, they were cheerful and in good spirits. I owe them, as well as the officers

an account of an express from Fort Arbuckle that arrived in Fort Smith five days earlier, with the cheering news that Captain Marcy and his men were alive and approaching the fort. This account quickly circulated over the country to the great relief of thousands of readers (*Springfield* [Mass.] *Daily Republican*, July 29, 1852, p. 2, col. 5; *Hartford Daily Courant*, August 3, 1852, p. 2, col. 6; *Boston Daily Advertiser*, August 12, 1852, p. 2, col. 1; *ibid.*, August 16, 1852, p. 2, col. 4).

10. On their return to Fort Smith Marcy and McClellan, and their friend J. R. Suydam from New York, who had accompanied them on the expedition, departed for Rock Roe on the White River where they took a steamer for Memphis on their way to the East (Col. R. B. Marcy, *Thirty Years of Army Life on the Border*, 374). Marcy arrived in St. Louis late in August and continued on his way home to join his family. McClellan became acquainted with Mrs. Marcy and her two daughters; Nellie, the eldest, a great beauty and social favorite, eight years later became Mrs. McClellan (Peter Smith Michie, *General McClellan* in the "Great Commander Series" [D. Appleton & Co., 1901]).

and gentlemen who were with me, my most hearty thanks for their cordial co-operation with me in all the duties assigned to the expedition. It is probably in a great measure owing to this harmonious action on the part of all persons attached to the expedition, that it has resulted so fortunately.

We have lost no men by death, and, with the exception of the two cases of scurvy, there has been no sickness of consequence. And instead of any of our animals dying or straying away, we have had the especial good fortune of adding three horses, which we found upon the plains, to the number we received at the commencement of the march.

The animals, and particularly the oxen, many of which were so poor when they left Preston as to be considered almost useless, have all returned in fine condition, and are now much better capable of performing service than when they came into our hands.

CHAPTER IX

PROMINENT FEATURES OF RED RIVER—FLOODS—CHAIN OF LAKES—CROSS-TIMBERS—ARABLE LANDS—ESTABLISHMENT OF A MILITARY POST UPON RED RIVER RECOMMENDED—ROUTE OF COMANCHES AND KIOWAYS IN PASSING TO MEXICO—WAGON-ROUTE FROM FORT BELKNAP TO SANTA FE—NAVIGATION OF RED RIVER—ERRONEOUS OPINIONS IN REGARD TO RED RIVER—EXTENSIVE GYPSUM RANGE—EL LLANO ESTACADO

IN a comprehensive review of the physical characteristics of the particular section of Red river which is comprised within the limits of the district assigned to the attention of the expedition, it will not perhaps be considered irrelevant to make a few general observations upon the more prominent features of the country bordering upon this stream, from its confluence with the Mississippi to its sources. It will be observed, by reference to a map of the country embracing the basin of this river, that in ascending from the mouth, its general direction as high as Fulton, Arkansas, is nearly north and south; that here it suddenly changes its course and maintains a direction almost due east and west to its sources. One of the first peculiarities which strikes the mind on a survey of the topography of this extensive district of country, is the general uniformity of its surface: with the exception of the Wichita range no extensive chains of lofty mountains diversify the perspective, and but few elevated hills rise up to relieve the monotony of the prospect. Another distinguishing feature of this river is, that the country on its upper

waters differs in every respect from that in the vicinity of its mouth. The valley is found to comprise two great geographical sections, each having physical characteristics entirely distinct from the other. The main branch of the river from the point where it debouches out of the Staked Plain, flows through an arid prairie country almost entirely destitute of trees, over a broad bed of light and shifting sands, for a distance, measured upon its sinuosities, of some five hundred miles. This country for the most part is subject to periodical seasons of drought, which preclude the possibility of cultivation except by means of artificial irrigation. It then enters a country covered with forest-trees of gigantic dimensions, growing upon an alluvial soil of the most pre-eminent fertility, which sustains a very diversified sylva, and affords to the planter the most bountiful returns of all the products suited to the latitude. On entering this section of the river we find that the borders contract, and the water, for a great portion of the year, washes both banks, at a high stage carrying away the loose alluvium from one side and depositing it upon the other in such a manner as to produce constant changes in the channel and to render the navigation difficult. This character prevails through the remainder of its course to the Delta of the Mississippi, and throughout this section it is subject to heavy inundations, which often flood the bottoms to such a degree as to produce very serious consequences to the planters, destroying their crops, and, upon subsiding, occasionally leaving a deposit of white sand over the surface, rendering it thenceforth entirely barren and worthless.

Below the great raft¹ a chain of lakes continues to

1. The phenomenon known as the Great Raft was a succession of log

skirt the river for more than a hundred miles: these are supposed to have been formed in the ancient channels and low grounds of former streams, whose discharge had gradually been obstructed by an embankment formed of the sedimentary matter brought down the river from above.

These lakes are from five to fifty miles in length, from a quarter to three miles wide, and are filled and emptied alternately as the floods in Red river rise and fall; they serve as reservoirs, which in the inundations of the banks of the river receive a great quantity of water, and, as it subsides, empty their contents gradually, thereby tending to impede the rapid discharge of the floods upon the Delta. Like all rivers of great length which drain a large extent of country, Red river is subjected to periodical seasons of high and low water. The floods occur at very uniform epochs, but the quantity and elevation of the water, as well as its continuance at a high stage, vary constantly.

During the winter the water often remains high for several months, but the heavy rise which has almost invariably been observed during the month of June, often subsides in a very few days.

masses that choked the Red River for a distance of more than a hundred miles and was of unknown antiquity. It had existed so long as to assume permanent form and it was said that forest trees were to be seen growing upon it; horsemen could ride over it not knowing that they were passing over the water of the river. When the removal of the Choctaw Indians was commenced in 1832 orders were given to attempt the removal of the raft so that navigation of the Red River could be established and supplies for the emigrating Indians could be brought up the stream. Destruction of the raft was carried on under the command of Capt. Henry M. Shreve with a force of 150 men and four snag-boats. It was five years before Shreve could report the completion of the work. (See "River Navigation in the Early Southwest," by Grant Foreman, in *The Mississippi Valley Historical Review*, XV, 34, and authorities there cited.)

The geographical position of the sources of Red river being in latitude $34^{\circ} 42'$ and longitude $103^{\circ} 7' 10''$, and its confluence with the Mississippi in latitude about 31° and longitude $91^{\circ} 50'$, it extends over three and a half degrees of latitude and eleven degrees of longitude. The barometrical elevation of its sources above the sea is twenty-four hundred and fifty feet. The estimated distance by the meanderings of the stream from the mouth to Preston, Texas, is sixteen hundred miles, and from this point to the sources of the main branch five hundred more, making the entire length of the river two thousand one hundred miles.

On emerging from the timbered lands upon Red river into the great plains, we pass through a strip of forest called the Cross-Timbers. This extensive belt of woodland, which forms one of the most prominent and anomalous features upon the face of the country, is from five to thirty miles wide, and extends from the Arkansas river in a south-westerly direction to the Brazos, some four hundred miles.

At six different points where I have passed through it, I have found it characterized by the same peculiarities; the trees, consisting principally of post-oak and black-jack, standing at such intervals that wagons can without difficulty pass between them in any direction. The soil is thin, sandy, and poorly watered. This forms a boundary-line, dividing the country suited to agriculture from the great prairies, which, for the most part, are arid and destitute of timber.² It seems to have

2. "The celebrated Cross Timbers. . . . extend from the Brazos, or perhaps from the Colorado of Texas, across the sources of Trinity, traversing Red River above the False Washita, and thence west of north to the Red Fork of Arkansas, if not further. . . .

"The Cross Timbers vary in width from five to thirty miles, and entirely

been designed as a natural barrier between civilized man and the savage, as, upon the east side, there are numerous spring-brooks, flowing over a highly prolific soil, with a superabundance of the best of timber, and an exuberant vegetation, teeming with the delightful perfume of flowers of the most brilliant hues; here and there interspersed with verdant glades and small prairies, affording inexhaustible grazing, and the most beautiful natural meadows that can be imagined; while on the other side commence those barren and desolate wastes, where but few small streams greet the eye of the traveller, and these are soon swallowed up by the thirsty sands over which they flow. Here but little woodland

cut off the communication betwix the interior prairies and those of the great plains. They may be considered as the 'fringe' of the great prairies, being a continuous brushy strip, composed of various kinds of undergrowth; such as blackjacks, post-oaks, and in some places hickory, elm, etc., intermixed with a very diminutive dwarf oak, called by the hunters, 'shin-oak.' Most of the timber appears to be kept small by the continual inroads of the 'burning prairies;' for—being killed almost annually, it is constantly replaced by scions of undergrowth; so that it becomes more and more dense every reproduction. In some places, however, the oaks are of considerable size, and able to resist the conflagrations. The underwood is so matted in many places with grapevines, green-briars, etc., as to form almost impenetrable 'roughs,' which serve as hiding places for wild beasts, as well as wild Indians; and would, in savage warfare, prove almost as formidable as the hammocks of Florida" (Josiah Gregg, *Commerce of the Prairies* [edition of 1855], p. 199; *ibid.*, in *Thwaites Western Travels*, XX, 254 ff.).

In early days, traders, trappers, and other travelers in the country employed the Cross Timbers as a datum line for location, and measured distances of places from this well-known landmark, as in populated parts of the world reference is made to the Meridian of Greenwich.

On some of the old maps the Cross Timbers is shown extending up and down the ninety-eighth meridian, between the Red and Canadian rivers, which gives it a north and south course through the country. On the government map of 1834 (U. S. House Report, No. 474, Twenty-third Congress, first session), a legend is printed up and down this line reading, "Western Boundary of Habitable Land." In the adjustment of the affairs of the Choctaw and Chickasaw Indians in 1866 this line was taken as the western boundary of the possessions of those tribes, and later became part of the dividing line between the Indian Territory and Oklahoma Territory.

is found, except on the immediate borders of the water-courses.

From the point where Red river leaves the timbered lands, the entire face of the country, as if by the wand of a magician, suddenly changes its character. The bluffs now approach nearer the river, and the alluvial bottoms, which below here have been exceedingly rich and productive, contract, and do not support that dense and rank vegetation which characterizes the lower portion of the valley. The undergrowth of cane-brakes and vines disappears, and is no more seen throughout the entire extent of the valley. The lands adjacent gradually rise, and exhibit broad and elevated swells of surface, with spacious valleys intervening, and the soil continues to become more and more sterile as we ascend, until we reach the 101st degree of longitude, when from this point, with few exceptions, there is no more arable land.

Previous to my departure upon the expedition, I had been led to believe, from the representations of the Indians and others, that after passing Cache creek, no more good timber or land suited to cultivation would be met with upon the waters of Red river; but in this (as will have been observed) I was greatly in error, as we found much good timber and fertile land above this point.

The country drained by the numerous branches of Cache creek alone is very large, and possesses, in a remarkable degree, all the elements necessary for constituting a rich and productive agricultural district.

Including the valleys embraced within the Wichita mountains, there are upon a very moderate estimate, at least from seventy-five to eighty thousand acres of tillable lands upon the waters of this stream. In the

valley of Otter creek there are also several thousand acres of rich alluvial lands, with timber in abundance; and upon Elk, Sweetwater, and the other small affluents of the North Fork, much land is found which would rank with our government surveyors as "first rate" in quality. All these would make up an aggregate of at least one hundred and fifty thousand acres of land, upon which cotton, corn, and most other grains, could be produced abundantly.

Could they be persuaded to lay aside their wandering habits and cultivate the soil, the amount of land here alluded to would be more than sufficient to sustain all the natives inhabiting this section of country; and the luxuriant and nutritious grasses which everywhere abound throughout the entire extent of the river basin, would furnish an inexhaustible amount of forage and grazing for their numerous animals. The winters here are mild, and it is seldom that the snow covers the ground more than a day or two at a time. There is a constant supply of good running-water upon all the minor tributaries to the North Fork, and sufficient woodland to supply farmers with fuel for a great number of years.

The soil of the valley of the main trunk of the river, as well as upon the Salt Fork, is thin and sandy, with very little timber or palatable water; and the country here possesses but few of the requisites essential to agriculture.

The Comanches and Kioways resort in great numbers to the waters of the north fork of Red river, where they find forage for their animals abundant during the winter months. Vestiges of their camps were everywhere observed along the whole course of the valley, from the

Witchita mountains to the sources; and the numerous remains of the stumps of trees which had been cut down by them at different periods, indicated that this had been a favorite resort for them during many years. In several places we found camps that had only been deserted but a few days, and some where the fires were still burning. From the great extent of surface upon which the grass was cropped at some of these camping-places, and from the multitude of tracks still remaining, we inferred that they were supplied with immense numbers of animals; and they are undoubtedly attracted here by the superior quality of the grass, and the great abundance of cotton-wood which is found along the borders of the streams, upon the bark of which they fatten their favorite horses in the winter season.

Should the government authorities ever have occasion to communicate with these Indians, I have no doubt that many of them can always be found during the autumn, winter, and spring months along this branch of Red river; during the summer they leave and travel north in pursuit of the buffalo, generally ranging between the north fork of the Canadian and the Arkansas river.

We observed but few places upon the main branch of the river where the Indians had made their encampments. We, however, saw trails where they are accustomed to travel, crossing this branch and leading south towards the Brazos; indeed, a party with about fifty horses and mules had travelled along the bed of the Ke-che-a-qui-ho-no, through the gorge to the head of the river, but a short time previous to our passing.

The military posts already established upon the southwestern borders of Texas, with the two occupied by the fifth infantry in the direction of the headwaters

of the Brazos, undoubtedly exercise a good influence over the southern Comanches who frequent that section; but there is a vast tract of country to the north of this, extending across Red river and the Canadian to the Arkansas, where there is no military post until reaching Fort Atkinson, upon the Santa Fe trace. Fort Arbuckle and Fort Scott are near the settlements, and they are now entirely out of the range of the prairie tribes. The northern and middle Comanches and the Kioways occupy this country, and go and come when and where they choose without the knowledge of any of our military authorities. These Indians probably commit more depredations upon the northern provinces of Mexico than any others. In passing back and forth upon these forays, they were formerly in the habit of taking a route crossing the Brazos and Colorado rivers, in the vicinity of some of the military posts in Western Texas; but since they have become acquainted with the localities of these posts, I have been informed by the Indians that they were so much harassed by the troops as to cause them to change their route; and now they generally pass to the north and west, entirely around this chain of posts.

It is a well-known fact, that whenever depredations have been committed by the Indians along the western borders of Texas, the perpetrators have almost invariably come from the north and returned in that direction; and when pursued their trace has generally been found to lead towards Red river, in the direction of the western extremity of the Wichita chain of mountains. Such was the fact in the recent instances where animals were stolen from the posts upon the Brazos; and I cannot but believe, if there had been a garrison at some point

upon Red river in the vicinity of the mountains, that the stolen animals might in a majority of cases have been recovered, and the authors of the depredations detected. Heretofore the troops stationed upon the Brazos, when sent in pursuit of Indians who had stolen animals, have followed them until their provisions were consumed, and have then been obliged to abandon the trail and turn back before coming near them; whereas, if they had started out from a post upon Red river, they would probably have been enabled to carry provisions sufficient to have served them until they could have reached the encampments where the freebooters had left their families.

A garrison established near the western extremity of the Wichita range of mountains would be in the heart of the Comanche country, and near the point where they cross Red river upon their marauding expeditions into Texas and Mexico.

The military authorities stationed here would have an opportunity of becoming acquainted with the chiefs, and with the character and habits of the Indians frequenting this section, and would have greater facilities for gaining their confidence and removing the unfavorable impression which they have heretofore entertained towards Americans. Believing that our government contemplates taking their hunting grounds from them, they have always been suspicious of the motives of the whites who have visited their country; so much so, that upon one occasion they massacred a party of twenty men who attempted to survey a tract of land in Western Texas. They desire, therefore, to remain as far as possible away from the white settlements.



Medicine Bluff, Fort Sill

If troops were quartered in their country anywhere in the vicinity of the point I have mentioned, the Indians would by degrees become familiarized to their presence, and in time learn that instead of doing them injustice, the policy of our government towards them is such as would ultimately conduce to their welfare and prosperity.

At almost any point throughout the Wichita mountains, all the requisites for building and sustaining a military post are found in great profusion. The quality of the timber, soil, and water, are all far superior to that near the posts upon the Brazos river; and I firmly believe there is no more salubrious climate in the universe.

In my humble judgment, in view of what has been said, a military post established in the vicinity of these mountains,³ and garrisoned by a force of sufficient strength to command the respect of the Indians would add more to the efficiency of the army in checking their depredations than any other position that is now occupied by the troops in Western Texas. This post would be about one hundred and forty miles distant from Fort Arbuckle; two hundred miles from Fort Washita; and one hundred and twenty from Fort Belknap; and being near Red river (which it is believed will prove navigable, at a good stage of water, nearly as high as this point), the troops could probably be furnished with supplies at a lower rate than at any of the military posts in this part of the country equi-distant from the seacoast.

3. Many further examinations and reports of the country were made before the hopes and plans of army officers were realized in the establishment of the fort conceived by them, which was named Fort Sill.

Should it become necessary to march troops or transport supplies between the military posts upon the headwaters of the Brazos and Santa Fe, a better route cannot be desired for wagons than the one we have followed from Fort Belknap to the confluence of Cache creek, continuing up the north fork of Red river to near its source in the Staked Plain, and thence across in a northwesterly direction to the Canadian river, upon the south bank of which will be found a distinctly-marked wagon-trace, travelled by California emigrants in the summer of 1849,⁴ which leads in a very direct course, over firm and smooth ground, to Santa Fe. There is a bountiful supply of all that is essential to the comfort of the traveller and his animals upon this route; and good wood, water, and grass, are found so abundantly along the entire distance, that he need not make a single encampment without them all. The distance, measured along the route over which we travelled, from Fort Belknap to the mouth of Cache creek, is one hundred and twenty miles; from this point to the head of the north fork of Red river is two hundred and thirty-seven miles; to the Canadian, twenty-five miles; thence to Santa Fe, two hundred and ninety-five miles; making the aggregate distance between the termini six hundred and seventy-seven miles. These distances, as far as the Canadian, are measured upon the route over which we travelled in our explorations; and although its general course is reasonably direct, it is in some places circuitous, and could probably be shortened so

4. Many emigrants came from eastern states to Fort Smith where they organized in companies and equipped themselves; they then departed along the Arkansas River to the mouth of the Canadian, which they ascended on both sides of the stream; before they reached the western boundary of the present Oklahoma they were all on the south side.

as to reduce the distance to about six hundred and forty miles. The navigation of Red river with steamers of light draught is practicable at all times to Shreveport; and about four months of the year they have ascended without difficulty to Fort Towson.

During the past season, at a time when the river was at a low stage, a steamer, drawing three and a half feet of water had no difficulty in ascending as high as Preston⁵ near the confluence of the Washita. Several boats had previously reached this point upon the river; but as there are but few settlements above here, there has as yet been no inducements held out for boats to attempt the navigation of the river any higher. I am confident, however, from what I have seen of Upper Red river, that at a medium stage there will be sufficient depth of water for small steamers, such as ply upon some of the tributaries to the Mississippi, to ascend the river as high as where the two principal branches unite (about fifty miles above the mouth of Cache creek). As an evidence of this, on our outward march, at a time when the river was at a high stage, I had occasion for crossing frequently, but could find no place below the point mentioned where the water in the channel was of less depth than five feet; indeed, I do not think as many obstructions will be found above Preston as below, for the reason that there is but little woodland bordering upon the upper portion of the river, and consequently but few of those formidable obstacles called snags.

At a low stage the water in the river becomes very shallow, and can then be forded at any point. But during high water, the quicksands in the bed of the

5. Preston, Texas, is in the bend of Red River northeast of the present Denison.

stream become loose and unstable, and make it hazardous to attempt a passage with animals. It was observed throughout that portion of the valley of the river which came under our observation, that it was bordered upon each side by three distinct terraces or benches, running parallel with the course of the stream. The first of these is from three to six feet high, from fifty to two hundred feet wide, and in places subject to overflow. The second which is from ten to twenty feet above the first, is from two to five hundred feet wide, and is never submerged. The third varies from fifty to three hundred feet in elevation above the second, and forms the elevated line of bluffs that terminate the prairie lands adjacent to the valley.

In many places between the upper extremity of the Wichita mountains and the sources of the river, we found continuous chains of sandhills, from twenty to fifty feet high, bordering the valley, and denuded of all herbage save a few plum-bushes and grape-vines. Although there is some good soil upon the small affluents to the main river, the country generally, immediately bordering it, is barren and sandy.

Several erroneous opinions have for many years been entertained in regard to the country upon the headwaters of Red river. For instance, it has generally been supposed, from the circumstance of a heavy rise occurring in the river during the month of June, at a time when there is generally no rain in the settlements, and during the dry season upon the plains, that the sources of the river would be found in lofty mountain ranges, where the melting snows would account for the great amount of water passing through the channel at the season mentioned. But such is not the fact, as all the

principal branches above Cache creek have their origin in the eastern borders of the table-lands of New Mexico, where there are no mountains. We, however, observed frequent copious rains in the vicinity of the Wichita mountains during the season of the June flood; and I am of the opinion that here is the source whence much of the water is derived.

As the water in the river has a very bitter and disagreeable taste, it has been conjectured that it passed in its course through extensive salt plains: but this I also found to be an error. We saw no deposit of chloride of sodium in the vicinity of the river; the peculiar taste being communicated by ingredients that it receives in flowing for a hundred miles over a gypsum formation. An analysis of this water, under the direction of Dr. Clark, of Amherst College, gives the following results, from which it will be seen that the per-centage of salt is small:*

Weight of water in fluid ounces.....	4-
“ “ water in fluid grammes.....	127.800
“ “ chlorine present.....	.051
“ “ lime.....	.033
“ “ sulphuric acid.....	.095
Sulphates of soda and magnesia.....	.168

Regarding the lime as a sulphate, and the residue of sulphuric acid as united with magnesia, and the chlorine as united with the sodium, we have the following results:

*I have understood since our return that the Indians have recently discovered a deposit of salt (chloride of sodium) about three miles to the south of our return route, near the western extremity of the Wichita mountains.

Weight of sulphate of lime.....	.080
“ “ sulphate of magnesia.....	.073
“ “ chloride of sodium.....	.084
<hr/>	
Weight of the whole.237
<hr/>	
Per-centage of matter in solution.....	19

This gypsum range forms an immense belt, which extends across the country for some four or five hundred miles. Col. Long speaks of seeing it upon the Arkansas; and I have myself passed through it at four other different points south of this, embracing a range of some three hundred miles. It is regarded by Dr. Hitchcock as the most extensive deposit of this mineral in North America. I have everywhere found it characterized by the same peculiarities, with the water issuing from it invariably bitter and unpalatable.

The Arkansas, Canadian, Brazos, Colorado, and Pecos rivers, pass through the formation, and a similar taste is imparted to the waters of all. Several of these also have their sources in the same elevated table-lands as Red river, and where they make their exit from this plateau their beds are confined to vast sluices or canyons, the sides of which rise very abruptly to an enormous height above the surface of the water. The barren mesa, in which these streams take their rise, extends from the Canadian river, in a southerly course, to near the confluence of the Pecos with the Rio Grande, some four hundred miles, between the 32d and 37th parallels of north latitude. It is in places nearly two hundred miles in width, and is embraced within the 101st and 104th meridians of west longitude. The

approximate elevation of this plain above the sea, as determined with the barometer, is two thousand four hundred and fifty feet. It is much elevated above the surrounding country, very smooth and level, and spreads out in every direction as far as the eye can penetrate, without a tree, shrub, or any other herbage to intercept the vision. The traveller in passing over it sees nothing but one vast, dreary, and monotonous waste of barren solitude. It is an ocean of desert prairie, where the voice of man is seldom heard, and where no living being permanently resides. The almost total absence of water causes all animals to shun it: even the Indians do not venture to cross it except at two or three points, where they find a few small ponds of water. I was told in New Mexico that, many years since, the Mexicans marked out a route with stakes across this plain, where they found water; and hence the name by which it is known throughout Mexico, of "El Llano Estacado," or the "Staked Plain."

CHAPTER X

INDIANS OF THE COUNTRY—HABITS OF THE COMANCHES AND KIOWAYS—SIMILARITY BETWEEN THEM AND THE ARABS AND TARTARS—PREDATORY EXCURSIONS INTO MEXICO—WAR IMPLEMENTS—INCREDULITY REGARDING THE CUSTOMS OF THE WHITES—METHOD OF SALUTING STRANGERS—DEGRADED CONDITION OF THE WOMEN—AVERSION TO ARDENT SPIRITS—PRAIRIE INDIANS CONTRASTED WITH INDIANS OF THE EASTERN STATES—BUFFALOES—PROBABLE CONDITION OF THE INDIANS UPON THE EXTERMINATION OF THE BUFFALOES—PERNICIOUS INFLUENCE OF TRADERS—SUPERSTITIONS OF THE NATIVES

THE country over which we passed is frequented by several tribes of Indians, who follow the buffalo, and subsist almost exclusively upon the uncertain products of the chase. The Witchitas, Wacos, Kechies, and Quapaws, all resort to the country about the Wichita mountains, where a few years since they had their thatched villages and corn-fields, but they have recently removed near the white settlements. The Witchitas and Wacos, as before stated, are now living upon Rush creek, while the Kechies and Quapaws are upon Chouteau's creek, an affluent of the Canadian.¹ The Witchitas and Kechies each number about one hundred warriors; the Wacos about eighty; and the Quapaws only about twenty-five. They all use the horse in their hunting

1. Chouteau's Creek is on the north side of the Canadian River near the present Lexington, Oklahoma. It was named for Col. A. P. Chouteau who conducted a trading store there for a few years after 1835.

and war expeditions, and are possessed of a good supply of these animals. The history of the Quapaws, a minute remnant of what was once a large and powerful nation of Indians, called the "Arkansas," but now only numbering a very few lodges of miserable half-starved beggars, is truly melancholy. Father Charlevoix, in his "Historical Journal of a Voyage down the Mississippi," speaks of visiting them, and found them at that time very numerous and warlike. He says of them: "The Arkansas, or Quapaws, are reckoned to be the tallest and best-shaped of all the savages of this continent, and they are called, by way of distinction, 'the fine men.'" He describes them as occupying at the time of his visit four villages, one of which was upon the Mississippi, a short distance above the mouth of the Arkansas. They were, according to him, composed of the confederated remnants of several ruined nations.

In the time of Du Pratz² these Indians had all moved up the Arkansas, and were living about twelve miles from the mouth of White river; they were then quite numerous, and he compliments them by saying that they were no less distinguished as warriors than hunters, and that they were the first nation that succeeded in conquering the warlike and numerous Chickasaws. It is related that upon one occasion they encountered the Chickasaws, who, in consequence of having no powder, considered it most prudent to make a precipitate retreat; whereupon the Quapaw chief, understanding the cause, determined they should be placed on an equality, and

2. Antoine S. Le Page du Pratz, a Frenchman, visited the country of the western Indians and wrote a work that was published in Paris in 1758 in three volumes entitled *Histoire de la Louisiane*. In it he describes minutely and entertainingly numerous tribes of American Indians, their customs and organizations.

ordered all his warriors to empty their powder-horns into a blanket, and making an equal division of the powder, he gave one-half to his enemies. The battle then commenced, and in a short time terminated with a signal defeat of the Chickasaws, who retreated with a loss of ten killed and five prisoners, while the Quapaws only lost one man. They were also distinguished for their friendship to the early settlers along the Arkansas river, and it is much to be deplored that this once numerous and valorous nation is so fast approaching annihilation. The two most numerous and powerful tribes of Indians frequenting the country upon Upper Red river are the Comanches and Kioways; the former range from the Wichita mountains to the sources of the river, while the latter occasionally visit the headwaters, but seldom come as far down as the mountains. These tribes have similar habits, but speak different languages. The most numerous and warlike nation is that of the Comanches, who are separated into three distinct local grand divisions, namely: the Northern, Middle, and Southern; each of these is subdivided into several bands, commanded by separate chiefs.

The Northern and Middle Comanches subsist almost entirely upon the flesh of the buffalo; they are known among the other Indians as "buffalo-eaters," and are generally found at their heels, migrating with them from place to place upon those vast and inhospitable plains of the West, the greater portion of which are incapable of cultivation, and seem destined in the future, as in the past, to be the abode of the wandering savage, possessing, as they do, so few attractions to civilized man. This vast district, however, exhibits one characteristic which compensates for many of its asperities;

perhaps no part of the habitable globe is more favorable to human existence, so far as the atmosphere is concerned, than this. Free from marshes, stagnant water, great bodies of timber, and all other sources of poisonous malaria, and open to every wind that blows, this immense grassy expanse is purged from impurities of every kind, and the air imparts a force and vigor to the body and mind which repays the occupant in a great measure for his deprivations. Nature, which almost everywhere exhibits some compensation to man for great hardships, has here conferred upon him health, the first and best of her gifts. It is a fact worthy of remark, that man, in whatever situation he may be placed, is influenced in his modes of existence, his physical and moral condition, by the natural resources of climate, soil, and other circumstances around him, over the operations of which he has no control. Fortunately, such is the flexibility of his nature that he soon learns to adapt himself to the hardest and most untoward circumstances, and, indeed, ultimately becomes not only reconciled to his lot, but persuades himself that his condition is far preferable to that of most others.

The example of our western-border settlers is illustrative of this fact, as they continue to remove farther and farther west as the settlements encroach upon them, preferring a life of dangerous adventure and solitude to personal security and the comforts and enjoyments of society; and what was at first necessity to them, becomes in time a source of excitement and pleasure.

The nomadic Indian of the prairies demonstrates the position still more forcibly: free as the boundless plains over which he roams, he neither knows nor wants any luxuries beyond what he finds in the buffalo or the deer

around him. These serve him with food, clothing, and a covering for his lodge, and he sighs not for the titles and distinctions which occupy the thoughts and engage the energies of civilized man. His only ambition consists in being able to cope successfully with his enemy in war, and in managing his steed with unfailing adroitness. He is in the saddle from boyhood to old age, and his favorite horse is his constant companion. It is when mounted that the Comanche exhibits himself to the best advantage: here he is at home, and his skill in various manoeuvres which he makes available in battle—such as throwing himself entirely upon one side of his horse, and discharging his arrows with great rapidity towards the opposite side from beneath the animal's neck while he is at full speed—is truly astonishing. Many of the women are equally as expert, as equestrians, with the men. They ride upon the same saddles and in the same manner, with a leg upon each side of the horse. As an example of their skill in horsemanship, two young women of one of the bands of the Northern Comanches, while we were encamped near them, upon seeing some antelopes at a distance from their camp, mounted horses, and with lassos in their hands set off at full speed in pursuit of this fleetest inhabitant of the plains. After pursuing them for some distance, and taking all the advantages which their circuitous course permitted, they finally came near them, and, throwing the lasso with unerring precision, secured each [an] animal and brought it back in triumph to the camp. Every warrior has his war-horse, which is the fleetest that can be obtained, and he prizes him more highly than anything else in his possession, and it is seldom that he can be induced to part with him at any

price. He never mounts him except when going into battle, the buffalo chase, or upon state occasions. On his return from an excursion he is met at the door of his lodge by one of his wives, who takes his horse and attends to its wants with the utmost care. The prairie warrior performs no menial labor; his only occupation is in war and the chase. His wives, who are but little dearer to him than his horse, perform all the drudgery. He follows the chase, he smokes his pipe, he eats and sleeps; and thus he passes his time, and in his own estimation he is the most lordly and independent sovereign in the universe. Such are some of the characteristics of the prairie Indians; and I cannot dismiss the subject without remarking that, in addition to the physical similitude between the deserts of Arabia, the steppes of Central Asia, and the prairie *mesas* of our own country, a very striking resemblance is also observed in the habits and customs of the respective inhabitants. The Arabs of the desert, the Tartar tribes, and the aboriginal occupants of the prairies, are alike wanderers, having no permanent abiding-places, transporting their lodges wherever they go, and where these are pitched, there are their homes. They permit no authorities to control them but such as receive the unanimous sanctions of the masses, and the rule of their leaders is guided by the counsels of their old men, who in many cases allay dissensions and curb the impetuosity of ambitious young warriors, whose thirst for fame would often involve the nation in protracted wars. Thus their government is patriarchal, guided by mature and fraternal counsels. They are insensible to the wants and comforts of civilization; they know neither poverty nor riches, vice nor virtue, and are alike exempt from

the deplorable vicissitudes of fortune. Theirs is a happy state of equality, which knows not the perplexities of ambition nor the crimes of avarice. They never cultivate the soil, but subsist altogether upon game and what they can steal. They are alike the most expert horsemen in the world, and possess the same fond attachment for the animal. I once made an effort to purchase a favorite horse from a chief of one of the bands of the Southern Comanches (Se-na-co), and offered him a large price, but he could not be persuaded to part with him. He said the animal was one of the fleetest in their possession, and if he were to sell him, it would prove a calamity to his whole band, as it often required all the speed of this animal to insure success in the buffalo chase; that his loss would be felt by all his people, and he would be regarded as very foolish; moreover, he said (patting his favorite on the neck), "I love him very much."

The only property of these people, with the exception of a few articles belonging to their domestic economy, consists entirely in horses and mules, of which they possess great numbers. These are mostly pillaged from the Mexicans, as is evident from the brand which is found upon them. The most successful horse-thieves among them own from fifty to two hundred animals.

In their political and domestic relations there is also a similarity to the Old World nomads. They are governed by a chief, the tenure of whose office is hereditary so long as his administration meets the approbation of his followers. He leads them to war, and presides at their deliberations in council; but should he disgrace himself by any act of cowardice or mal-administration, they do not hesitate to depose him and place a more

competent man in his stead. Their laws are such as are adapted to their peculiar situation, and are sanctioned by the voice of the people. Their execution is vested in the subordinate chiefs or captains, as they are called, and they are promptly and rigidly enforced. In respect to the rights of property, their code is strictly Spartan. They are perhaps as arrant freebooters as can be found upon the face of the earth; and they regard stealing from strangers as perfectly legitimate and honorable, and that man who has been most successful in this is the most highly honored by his tribe; indeed, a young man who has not made one or more of these expeditions into Mexico is held in but little repute. In evidence of this, I was told by an old chief of the Northern Comanches, called Is-sa-keep, that he was the father of four sons, who he said were as fine young men as could be found; that they were a great source of comfort to him in his old age, and could steal more horses than any other young men in his band.

As these forays are often attended with much toil and danger, they are called "war expeditions." It not infrequently happens that but six or eight young men set out upon one of these adventures, and the only outfit they require is a horse, with their war equipments, consisting of the bow and arrows, lance and shield, with occasionally a gun. Thus prepared, they set out upon a journey of a thousand miles or more, through a perfectly wild and desolate country, dependent for subsistence wholly upon such game as they may chance to find. They make their way to the northern provinces of Mexico, where they lie in wait near some hacienda until a favorable opportunity offers to sweep down upon a solitary herdsman, and, with the most terrific yells,

drive before them all the animals they desire. Woe to the panic-stricken ranchero who fails to make a precipitate retreat, as they invariably kill such men as offer the slightest impediment to their operations, and take women and children prisoners, whom they hold in bondage of the most servile character. They are sometimes absent from their tribes two years or more before their success is sufficient to justify their returning with credit to themselves.

The use of the bow, which is the favorite arm and constant appendage of the prairie Indian, and which he makes use of exclusively in hunting the buffalo, is taught the boys at a very early age; and by constant and careful practice, they acquire a degree of proficiency in the art that renders them, when grown up to manhood, formidable in war, as well as successful in the chase. Their bows are made of the tough and elastic wood of the "bois d'arc," or Osage orange (*Maclura aurantiaca*), strengthened and reinforced with the sinews of the deer wrapped firmly around them, and strung with a cord made of the same material. They are not more than one-half the length of the old English long-bow, which was said to have been sixteen hands' breadth in length. The arrows are twenty inches long, of flexible wood, with a triangular point of iron at one end, and two feathers, intersecting each other at right-angles, at the opposite extremity. At short distances the bow, in the hands of the Indian, is effective, and frequently throws the arrow entirely through the huge carcass of the buffalo. In using this instrument, the Indian warrior protects himself from the missiles of his enemy with a shield of circular form, covered with two thicknesses of hard, undressed buffalo-hide, separated by a space



View near head of Red River

of about an inch, which is stuffed with hair; this is fastened to the left arm by two bands, in such a manner as not to interfere with the free use of the hand, and offers such resistance that a rifle-ball will not penetrate it unless it strikes perpendicular to the surface. They also make use of a war-club, made by bending a withe around a hard stone of about two pounds weight, which has been previously prepared with a groove in which the withe fits, and is thereby prevented from slipping off. The handle is about fourteen inches long, and bound with buffalo-hide.

The Comanche men are about the medium stature, with bright, copper-colored complexions and intelligent countenances, in many instances with aquiline noses, thin lips, black eyes and hair, with but little beard. They never cut the hair, but wear it of very great length, and ornament it upon state occasions with silver and beads. Their dress consists of leggins and moccasins, with a cloth wrapped around the loins. The body is generally naked above the middle, except when covered with the buffalo-robe, which is a constant appendage to their wardrobe. The women are short, with crooked legs, and are obliged to crop their hair close to their heads. They wear, in addition to the leggins and moccasins, a skirt of dressed deer-skin. They also tattoo their faces and breasts, and are far from being as good-looking as the men.

Notwithstanding that these people are hospitable and kind to strangers, and apparently amiable in their dispositions, yet, when a warrior conceives himself injured, his thirst for revenge knows no satiety. Grave and dignified in his deportment, and priding himself upon his coolness of temper and the control of his

passions, yet, when once provoked, he, like the majority of his race, is implacable and unrelenting; an affront is laid up and cherished in his breast, and nothing can efface it from his mind until ample reparation has been made. He has no idea of forgiveness: the insult must be atoned for by blood. With many tribes, quarrels can often be settled by presents to the injured party; but with the Comanches, their law of equity is of such a character that no reconciliation can take place until the reproach is wiped out with the blood of their enemy. They make no use of money except for ornaments. Like other tribes, they are fond of decking themselves with paint, beads, and feathers; and the young warrior often spends more time at his toilet than the most conceited coxcomb that can be found in civilized life. Bright red and blue are their favorite colors; and vermilion is an important article in the stock of goods of one of their traders. This they always carry about their persons; and whenever they expect to meet strangers, they always (provided they have time) make their toilet with care, and paint their faces. Some few of their chiefs who have visited their Great Father at Washington, have returned strongly impressed with the numerical power and prosperity of the whites; but the great majority of them being entirely ignorant of everything that relates to us, and the most of them having never even seen a white man, believe the Comanches to be the most powerful nation in existence; and the relation of facts which conflict with this notion, by their own people, to the masses of the tribes at their prairie firesides, only subjects the narrator to ridicule, and he is set down as one whose brain has been turned by the

necromancy of the pale-faces, and is thenceforth regarded as wholly unworthy of confidence.

Having upon one occasion a Delaware and a Comanche with me in the capacity of guides, I was much diverted with a conversation which passed between them in my presence, and which was interpreted to me by the Delaware. It appeared that the latter had stated to the other the fact of the sphericity of the earth's surface. This idea being altogether new and incomprehensible to the Comanche, was received with much incredulity, and, after gazing a moment intently at the Delaware to ascertain if he were sincere, he asked if that person took him for a child, or if he looked like an idiot. The Delaware said no; but that the white people, who knew all about these things, had ascertained such to be the fact; and added, that the world was not only round, but that it revolved in its orbit around the sun. The Comanche very indignantly replied that any man of sense could, by looking off upon the prairie, see at a glance that the earth was perfectly level; and, moreover, that his grandfather had been west to the end of it, where the sun disappeared behind a vertical wall. The Delaware continued, in his simple but impressive manner, to describe to the Comanche the steam-engine, with other objects of interest he had seen among the whites, all of which the Comanche regarded as the product of a fertile imagination, expressly designed to deceive him; and the only reply that he designed to make was an occasional exclamation in his own language, the interpretation of which the Delaware pronounced to be, "Hush, you fool!" I then endeavored to explain to the Delaware the operation of the magnetic telegraph, and, in illustration of its practical utility, stated to him that a message

could be sent a distance of one thousand miles, and an answer returned, in the short space of ten minutes time. He seemed much interested in this, and listened attentively to my remarks, but made no comments until I requested him to explain it to the Comanche, when he said, "I don't think I tell him that, Captain; for the truth is, I don't believe it myself."³

The mode of life of the prairie tribes, owing to their unsettled and wandering habits, is such as to render their condition one of constant danger and apprehension. The security of their numerous animals from the encroachments of their enemies, and their constant liability to attacks, make it imperatively necessary for them to be at all times upon the alert. Their details for herdsmen are made with as much regularity as the guard-details at a military post; and even in times of the most profound peace, they guard their animals both night and day, while scouts are often patrolling upon the adjoining heights to give notice of the approach of strangers, when their animals are hurried to a place of security, and everything made ready for defence. The manner in which they salute a stranger is somewhat peculiar, as my own reception at one of their encampments will show. The chief at this encampment was a very corpulent old man, with exceedingly scanty attire, who, immediately on our approach, declared himself a great friend of the Americans, and persisted in giving me evidence of his sincerity by an embrace, which, to please him, I forced myself to submit to, although it was far from agreeable to my own feelings. Seizing me in his brawny arms while we were yet in the saddle, and laying his greasy head

3. This was the celebrated Delaware guide, Black Beaver. For accounts of this interesting Indian see Grant Foreman, *Advancing the Frontier*, 250 ff.

upon my shoulder, he inflicted upon me a most bruin-like squeeze, which I endured with a degree of patient fortitude worthy of the occasion; and I was consoling myself upon the completion of the salutation, when the savage again seized me in his arms, and I was doomed to another similar torture, with his head on my other shoulder, while at the same time he rubbed his greasy face against mine in the most affectionate manner; all of which proceeding he gave me to understand was to be regarded as a most distinguished and signal mark of affection for the American people in general, whom, as he expressed it, he loved so much that it almost broke his heart; and in particular for myself, who, as their representative, can bear testimony to the strength of his attachment. On leaving his camp, the chief shook me heartily by the hand, telling me at the same time that he was not a Comanche, but an American; and as I did not feel disposed to be outdone in politeness by an Indian, I replied, in the same spirit, that there was not a drop of Anglo-Saxon blood in my veins, but that I was wholly and absolutely a Comanche, at which he seemed delighted, duly understanding and appreciating the compliment. These people are hospitable and kind to all with whom they are not at war; and on the arrival of a stranger at their camps, a lodge is prepared for him, and he is entertained as long as he chooses to remain among them. They are also kind and affectionate to each other, and as long as anything comestible remains in the camp, all are permitted to share alike; but with these exceptions, they are possessed of but few virtues. Polygamy is sanctioned and is very common among them, every man being allowed as many wives as he can support.

Within the past few years the Comanches have (for what reason I could not learn) taken an inveterate dislike to the negroes, and have massacred several small parties of those who attempted to escape from the Seminoles and cross the plains for the purpose of joining Wild Cat⁴ upon the Rio Grande. Upon inquiring of them the cause of their hostility to the blacks, they replied that it was because they were slaves to the whites; that they were sorry for them. I suspect, however, that they were actuated by other motives than they cared about acknowledging, and that instead of wishing to better their condition by sending them to another world, where they would be released from the fetters of bondage, they were apprehensive, if they permitted them to pass quietly, that in time Wild Cat's followers upon the Rio Grande would augment to such a degree that he would interfere with their marauding operations along the Mexican borders. During the past year they have also been hostile towards the Delawares and Shawnees, and have killed several individuals who have been into their country in small parties.

The Creek Indians, who exercise a good influence over the prairie tribes, have counselled them to commit no further acts of hostility upon these Indians, and I presume they will take measures to enforce a strict adherence to their wishes in this respect. These people, who

4. Wild Cat was a Seminole, one of the most astute and resourceful Indians that ever lived within the limits of the state of Oklahoma. Filled with hatred for the whites by the treatment his tribe had received when they were forcibly removed from Florida, he refused to live in their new home and sought to establish his people on the Mexican side of the Rio Grande. He induced several hundred Seminoles and Negroes and five hundred Kickapoos to accompany him in 1849-50. He died soon afterwards. For further accounts of Wild Cat and the massacre of Negroes by the Comanche Indians see Grant Foreman, *The Five Civilized Tribes*, 260 ff.

are so extremely jealous of their own freedom that they will often commit suicide rather than be taken prisoners, are the more prone to enslave others, and this dominant principle is carried to the greatest extreme so far as regards their women. A beast of burden and a slave to the will of her brutal master, yet, strange as it may appear, the Comanche woman seems contented with her lot, and submits to her fate without a murmur. The hardships imposed upon the females are most severe and cruel. The distance of rank and consideration which exists between the black slave and his master is not greater than between the Comanche warrior and his wife. Every degrading office that is imposed upon the black by the most tyrannical master, falls, among the Comanches, to the lot of the wretched female. They, in common with other Indians, are not a prolific race; indeed, it is seldom that a woman has more than three or four children. Many of these, owing to unavoidable exposure, die young; the boys, however, are nurtured with care and treated with great kindness by their mothers, while the girls are frequently beaten and abused unmercifully. I have never seen an idiot, or one that was naturally deformed, among them.

Of all the Indians I had before encountered, there were none who had not an extreme fondness for spirituous liquors. The prairie tribes that I have seen, say the taste of such liquor is not pleasant; that it makes fools of them, and that they do not desire it. If there are exceptions to this, I think they may be set down as factitious rather than natural; the appetite having been created by occasional indulgence in the use of a little at a time.

The diet of these people is very simple; from infancy

to old age their only food, with the exception of a few wild plants which they find on the prairies, is fresh meat, of which, in times of plenty, they consume enormous quantities. In common with many other tribes, they can, when necessity demands it, abstain from eating for several days without inconvenience, and they are enabled to make up at one meal the deficiency. All of them are extravagantly fond of tobacco, which they use for smoking, mixed with the dried leaves of the sumach, inhaling the smoke into their lungs and giving it out through their nostrils. Their language is verbal and pantomimic. The former consists of a very limited number of words—some of which are common to all the prairie tribes. The latter, which is exceedingly graceful and expressive, is the court language of the plains, and is used and understood with great facility and accuracy by all the tribes from the Gila to the Columbia; the motions and signs to express ideas being common to all. In contemplating the character of the prairie Indian, and the striking similarity between him and the Arab and Tartar, we are not less astonished at the absolute dissimilarity between these and the aboriginal inhabitants of the Eastern States. The latter, from the time of the discovery of the country, lived in permanent villages, where they cultivated fields of corn, and possessed strong attachment for their ancestral abodes and sepulchres: they did not use horses, but always made their hunting and war expeditions on foot, and sought the cover of trees on going into battle; while the former have no permanent abiding-places, never cultivate the soil, are always mounted, and never fight a battle except in the open prairie, where they charge boldly up to an enemy, discharge their arrows with great rapidity, and are

away before their panic-stricken antagonist can prepare to resist or retaliate. In their treatment of prisoners of war there was also a very marked difference. The eastern tribes, although they put their prisoners to tortures of the most appalling character, seldom, if ever, violate the chastity of the females; while, on the contrary, the prairie Indians do not put their prisoners to death by prolonged tortures, but invariably compel the females to submit to their lewd embraces. There is at this time a white woman among the Middle Comanches, by the name of Parker,⁵ who, with her brother, was captured while they were young children, from their father's house in the western part of Texas. This woman has adopted all the habits and peculiarities of the Comanches; has an Indian husband and children, and cannot be persuaded to leave them. The brother of the woman, who had been ransomed by a trader and brought home to his relatives, was sent back by his mother for the purpose of endeavoring to prevail upon his sister to leave the Indians and return to her family; but he stated to me that on his arrival she refused to listen to the proposition, saying that her husband, children, and all that she held most dear, were with the Indians, and there she should remain.

As the prairie Indians depend almost entirely on the buffalo for a subsistence and for clothing, it becomes a question of much interest, what will be the fate of these people when these animals shall have

5. Cynthia Ann Parker, a white girl, at the age of twelve years, and her brother were taken by the Comanche Indians on a raid in the summer of 1835 from the home of her father on Navasota River in Texas. The girl later became the wife of No-co-ne and the mother of the famous chief, Quanah Parker, who was born about 1845. (See Grant Foreman, *Pioneer Days in the Early Southwest*.)

become extinct? Formerly, buffaloes were found in countless herds over almost the entire northern continent of America, from the 28th to the 50th degree of north latitude, and from the shores of Lake Champlain to the Rocky mountains. As it is important to collect and preserve all facts connected with the history of this interesting and useful animal before the species becomes extinct, I trust I shall be pardoned for introducing a few quotations from authors, touching their early history, which to me appear highly interesting. In a work published at Amsterdam in 1637, called "New English Canaan," by Thomas Morton, one of the first settlers of New England, he says: "The Indians have also made description of great *heards* of well-growne beasts that live about the parts of this lake (Erocoise), now Lake Champlain, such as the Christian world (until this discovery) hath not bin made acquainted with. These beasts are of the bigness of a cowe, their flesh being very good foode, their hides good leather; their fleeces very useful, being a kind of woole, as fine almost as the woole of the beaver; and the salvages do make garments thereof. It is tenne yeares since first the relation of these things came to the eares of the English."

It is stated by another author (Purchas), that as early as in 1613 the adventurers in Virginia discovered a "slow kinde of cattell as bigge as kine, which were good meate."

The limit of the buffalo range on the north has been given differently by different writers. In a work published in London in 1589, by Hukluyt, it is stated, that in the island of New Foundland were found "mightie beastes, like to camels in greatness and their feete were cloven." He then says: "I did see them farre off, not able to discerne them perfectly, but their steps showed

that their feete were cloven, and bigger than the feete of camels. I suppose them to be a kind of buffes, which I read to bee in the countreys adjacent, and very many in the firme land."

It is supposed by some that these animals may have been the musk-ox. They were found by Captain Franklin as high as 60° north latitude. Although it is doubtful whether the buffalo ever ranged beyond the Rocky mountains, yet they have been found as far west as the western slope. They formerly ranged free and uninterrupted over the boundless plains of the West, only guided in their course by that faithful instinct which invariably led them to the freshest and sweetest pastures. Their only enemy then was the Indian, who supplied himself with food and clothing from the immense herds around his door; but would have looked upon it as sacrilege to destroy more than barely sufficient to supply the wants of his family. Thus this monarch of the plains was allowed free range from one end of the continent to the other. But this happy state of things was not destined to continue; an enemy appeared, who made great havoc among them, and in a short time caused a very sensible diminution in their numbers, and much contracted the limits of their wanderings. This enemy was the white man, who, in his steady march, causes the original proprietor of the soil to recede before him, and to diminish in numbers almost as rapidly as the buffalo. Thousands of these animals were annually slaughtered for their skins, and often for their tongues alone; animals whose flesh is sufficient to afford sustenance to a large number of men are sacrificed to furnish a "bon bouche" for the rich epicure. This wholesale slaughter on the part of the white man, with the

number consumed by the Indians, who are constantly on their trail, migrating with them as regularly as the season comes round, with the ravenous wolves that are always at hand to destroy one of them if wounded, gives the poor beast but little rest or prospect of permanent existence. It is only eight years since the western borders of Texas abounded with buffaloes; but now, they seldom go south of Red river, and their range upon east and west has also very much contracted within the same time; so that they are at present confined to a narrow belt of country between the outer settlements and the base of the Rocky mountains. With this rapid diminution in their numbers, they must in the course of a very few years become exterminated.⁶ What will then become of the prairie Indian, who, as I have already remarked, relies for subsistence, shelter, and clothing, on the flesh and hide of this animal? He must either perish with them, increase his marauding depredations on the Mexicans, or learn to cultivate the soil. As the first law of our nature is self-preservation, it is not probable that he will sit down and quietly submit to starvation; he must therefore resort to one of the latter alternatives. ~~He will sit down and quietly submit to starvation, he must therefore resort to one of the latter alternatives.~~ ~~He will sit down and quietly submit to starvation, he must therefore resort to one of the latter alternatives.~~ it the business of a slave, and very much beneath the dignity of a warrior, it appears reasonable to suppose that he will turn his attention to the Mexicans, over whom he has held the mastery for many years. Heretofore he has plundered these people to supply himself with animals for his own use and for traffic.

6. Captain Marcy lived to see his prophecy come true; for a little more than twenty years later, more than ten years before his death in 1887, the last of the buffalo herds that ranged in the future Oklahoma was destroyed by the white man, who thoughtlessly and needlessly slaughtered these animals to the point of extinction.

A number of Delawares, Shawnees, and Kickapoos, from Missouri and the borders of Arkansas, have for several years past been engaged in a traffic with the prairie Indians, which has had a tendency to defeat the efforts of the military authorities in checking their depredations upon the citizens of the northern provinces of Mexico. These traders, after procuring from the whites an outfit of such articles as are suited to the wants of the prairie Indians, visit all the different bands, and prosecute a very lucrative business. The goods they carry out consist of a few articles of small value, such as tobacco, paint, knives, calico, wampum, beads, &c., &c., which are of the utmost importance to the Indians, and which, if necessary, they will make great sacrifices to procure; but as they have no commodity for exchange that the traders desire except horses and mules, they must necessarily give these for the goods, and large numbers are annually disposed of in this manner. As I have before mentioned, nearly all these animals are pilfered from the Mexicans; and as the number they traffic away must be replaced by new levies upon their victims, of course all that the traders obtain causes a corresponding increase in the amount of depredations. Should the government of the United States feel disposed to make the prairie Indians annual donations of the same description of articles that the traders now supply them with (which I am most happy to learn is now contemplated), upon the express condition that they would continue only so long as they adhered strictly to all the requirements of the agents, it would in a measure obviate the necessity of their making long expeditions into Mexico, and would most undoubtedly have the effect of depreciating the value of the mer-

chandise to such a degree that the traders would no longer find the traffic profitable. The Indians of the plains are accustomed, in their diplomatic intercourse with each other, to exchange presents, and they have no idea of friendship unaccompanied by a substantial token in this form: moreover, they measure the strength of the attachment of their friends by the magnitude of the presents they receive; and I am firmly convinced that a small amount of money annually expended in this way, with a proper and judicious distribution of the presents, would have a very salutary influence in checking the depredations upon the Mexicans. In a talk which I held with a chief of one of the bands of prairie Indians, I stated to him that the President of the United States was their friend, and wished to live in peace with them. He replied that he was much astonished to hear this; for, judging from the few trifling presents I had made his people, he was of opinion that the "Big Captain" held them in but little estimation. Trained up, as the prairie Indians have been from infancy, to regard the occupation of a warrior as the most honorable of all others, and having no permanent abiding places or local attachments, and having no warrior as the most honorable of all others, and having no warrior as the most honorable of all others, and having no warrior as the most honorable of all others, and having no warrior as the most honorable of all others, any body or groups who should pursue them into the country. War would not, therefore, be as great a calamity to them as to other tribes who have permanent habitations. Some have supposed that a large body of these Indians could not obtain a sufficient amount of

subsistence to enable them to remain together for any great length of time; but their numerous horses and mules, which they often make use of for food when game is scarce, would supply them with subsistence for a long time. It will be necessary to devise some measures to do away with the inveterate prejudices which the Comanches entertain against the habits and customs of the whites, before they will be induced to remain in any fixed abodes or cultivate the soil.

In common with most other Indians, they are very superstitious; they believe in dreams, the wearing of amulets, medicine-bags, &c., and the dedication of offerings to secure the favor of invisible agents; as also in the efficacy of music and dancing for the cure of diseases. They submit with the most imperturbable stoicism and apathy to misfortunes of the most serious character, and, in the presence of strangers, manifest no surprise or curiosity at the exhibition of novelties; yet this apparent indifference is assumed, and they are in reality very inquisitive people. In every village may be seen small structures, consisting of a framework of slight poles, bent into a semi-spherical form, and covered with buffalo-hides. These are called *Medicine-lodges*, and are used as vapor-baths. The patient is seated within the lodge, beside several heated stones, upon which water is thrown, producing a dense hot vapor, which brings on a profuse perspiration, while, at the same time, the shamans, or medicine-men, who profess to have the power of communicating with the unseen world, and of propitiating the malevolence of evil spirits, are performing various incantations, accompanied by music on the outside. Such means are resorted to for healing all diseases; and I am also informed that their young

men are obliged to undergo a regular course of steam-bathing before they are considered worthy of assuming the responsible duties of warriors. The knowledge they possess of their early history is very vague and limited, and does not extend further back than a few generations. They say that their forefathers lived precisely as they do, and followed the buffalo; that they came from a country towards the setting sun, where they expect to return after death. They acknowledge the existence and power of a great supernatural agent, who directs and controls all things; but this power they conceive to be vested in the sun, which they worship and appeal to on all occasions of moment. They also anticipate a future state of existence similar to the present, and invariably bury with the warrior his hunting and war equipments. Thus far no efforts have ever been made to improve the moral or physical condition of these people; no missionaries have, to my knowledge, ever visited them, and they have no more idea of Christianity than they have of the religion of Mahomet. We find dwelling almost at our doors as barbarous and heathenish a race as exists on the face of the earth; and while our benevolent and philanthropic citizens are making such efforts to ameliorate the condition of savages in other countries, should we not do something for the benefit of these wild men of the prairies? Those dingy noblemen of nature, the original proprietors of all that vast domain included between the shores of the Atlantic and Pacific, have been despoiled, supplanted, and robbed of their just and legitimate heritage, by the avaricious and rapid encroachments of the *white man*. Numerous and powerful nations have already become exterminated by unjustifiable wars that he has waged with them, and by the effects

of the vices he has introduced and inculcated; and of those that remain, but few can be found who are not contaminated by the pernicious influences of unprincipled and designing adventurers. It is not at this late day in our power to atone for all the injustice inflicted upon the *red men*; but it seems to me that a wise policy would dictate almost the only recompense it is now in our power to make—that of introducing among them the light of Christianity and the blessings of civilization, with their attendant benefits of agriculture and the arts.

CHAPTER XI

PACIFIC RAILWAY—IMPRACTICABILITY OF CROSSING THE "LLANO ESTACADO"—ROUTE FROM FORT SMITH TO SANTA FE—RETURN ROUTE FROM DONA ANA— ITS CONNECTIONS WITH THE MISSISSIPPI AND THE PACIFIC

THE very lively interest that has been manifested in a project of such importance as that of uniting the Atlantic with the Pacific by a single span of railroad¹ over the continent of North America, and the prevailing dearth of reliable information regarding a great portion of that vast territory lying west of the Mississippi, induce me to add a few remarks upon this subject, which I trust will not be wholly devoid of interest or utility at this particular period.

Whether this road should be national, and its administration under the direction of the general government, or whether it should be intrusted to individual States or corporate companies, are questions the discussion of which it does not become me to attempt, and upon which I shall not presume to hazard an opinion. I propose, in what I have to say, merely to give a brief detail of such facts connected with this subject as are suggested after an examination of a district of country over which it may be found desirable to construct the road.

1. As a result of this growing interest, Congress the next year authorized surveys for such a road to be made and appropriated money for the purpose. One of these surveys conducted by Lieut. A. W. Whipple began at Fort Smith and in the main followed the route traversed in 1849 by Capt. R. B. Marcy and his command that accompanied the large party of California emigrants leaving Fort Smith April 11.

Although the appropriation made by the last Congress for preliminary surveys, indicates a disposition on the part of our national legislature to give aid in the initiatory steps, and although great benefits would undoubtedly result from bringing our distant possessions in the west into closer proximity with the eastern States, by a means of transit much more expeditious than any which nature offers, thereby facilitating the transmission of troops and munitions of war, the value of the project, in a commercial aspect, appears to be of sufficient magnitude to denote a reasonable guarantee for its speedy execution.

The importance, and indeed the necessity, of this road, are very generally admitted. It is the will of a people controlling a great share of the commerce of the world that it should be made; and possessing, as they do, ample pecuniary resources, and stimulated by the ambitious but laudable prospect of turning and monopolizing the channel of Asiatic trade, with the almost certain anticipation of profit, it is easy to predict the result. The financial demonstration recently made in New York city, whereby an amount of stock almost sufficient to carry out the enterprise was subscribed in one day, is eminently significant of the fact, and affords substantial evidence of the confidence of capitalists in the feasibility of the scheme, and an abundant pledge for its early and successful accomplishment. That the road will be constructed, but few at this time entertain a doubt; the only question that remains to be determined is, where is the best and most advantageous route?

The several exploring parties that have been sent across the continent in different latitudes, will un-

doubtedly place the department in possession of all the information required concerning the country over which the limited amount of the appropriation, and time, enabled them to pass; but as a large portion of the district over which I have travelled will not come within the scope of their reconnoissances, my remarks may serve to throw some light upon the subject, which cannot be obtained from other sources, and thus add to the general stock of information so earnestly sought after at this particular period.

The district of country to which my attention has been directed is embraced within the 32d and 36th parallels of latitude, and the 95th and 107th meridians of longitude; and is bounded upon the north by the Canadian river, and upon the west by the Rio Grande. A great portion of this vast domain, containing nearly thirty-two thousand square miles, was previous to 1849 almost wholly unknown,² except to the native occupants.

One of the most prominent features which strikes the eye of the beholder on an examination of this section, is the very remarkable uniformity of its surface, and the almost total absence of those abrupt and rugged primitive mountain ranges which in many other parts of our country offer such formidable obstacles to the passage of railways. But few mountains are seen throughout this region, and those few are so little elevated that they present but trifling obstructions when compared with many that are found in the eastern States. This section is, however, traversed throughout nearly its whole length, by the lofty plateau of the "Llano estacado," which, as will be observed upon the

2. Then discovered by the tide of emigration passing through on the way to California.

map, stretches out from the 32nd to the 36th parallel of latitude, and is in places, two hundred miles wide, without a tree or running stream throughout its entire surface, and presents, in my judgment, an impassable barrier to a wagon road; and I am fully impressed with the belief that a route crossing this desert anywhere between the 33d parallel of latitude and its northern limits will never be selected for a Pacific railway, or, indeed, a road of any description. South of this parallel the plain becomes less elevated above the adjacent country, and finally merges into the lands bordering the Pecos and the head branches of the Colorado.

If it be impracticable to construct and find the material for sustaining a railway across this desert, the question arises whether a feasible route can be found near the northern or southern borders of it.

The road which was made under my supervision from Fort Smith, Arkansas, to Santa Fe, New Mexico, in 1849 (with one exception, where it crosses a spur, which can easily be turned), skirts the base of the northern border of this plain; and so far as the topography of the country is concerned, I believe that a railroad can be made over it with great facility, as the general surface is smooth, and intersected by no impassable mountains or deep valleys.

On departing from Fort Smith, this road traverses a gently undulating district, sustaining a heavy growth of excellent timber, but occasionally interspersed with prairie lands, affording luxuriant grass for eight months in the year, and intersected with numerous small streams flowing over a highly productive soil, thus embracing the elements of a rich and beautiful pastoral and agricultural locality. This character continues for

one hundred and eighty miles, to near the 99th meridian of longitude, where the road emerges from the woodlands and enters the great plains, where but little timber is seen except directly along the borders of the water-courses. The soil soon becomes thin and sandy, and, owing to the periodical droughts of the summer season, would require artificial irrigation to make it available for cultivation.

Soon after leaving the woodlands the road takes a ridge which divides the Canadian from the Washita river, and continues upon it to near the sources of the latter stream, a distance of nearly three hundred miles. This ridge lies in a very direct course for Santa Fe, is firm and smooth, and makes one of the best natural roads I have ever travelled over. The ground upon each side is cut up into a succession of deep and precipitous gullies, which have been washed out by the continued action of water in such a manner as to render any other route in the vicinity, but the one directly upon the crest of the "divide," almost impassable.

From the head of the Washita the road continues near the valley of the Canadian for a hundred miles further, occasionally crossing small tributaries which furnish the traveller with water at convenient distances; it then bears to the left, and passes over the elevated lands bordering the Pecos river, skirting the base of the mountains along that stream until it arrives at a place called "Laguna Colorado," a small lake of muddy water, where the road forks, one branch leading to Santa Fe over a road forty miles in length, and the other to Albuquerque (the point where the route through what is called "Walker's Pass" is said to leave the Rio Grande), a distance of only twenty miles.

The distance from Fort Smith to Santa Fe, as measured with the chain, is eight hundred and twenty miles.*

The line of this road continued east from Fort Smith would intersect the Mississippi river in the vicinity of Memphis, Tennessee, and would pass through the country bordering the Arkansas river, which cannot be surpassed for fertility, as the bountiful crops of cotton, corn, and other products grown by the planters, abundantly evince.

The route of my return from New Mexico³ in 1849, which has been travelled by California emigrants every year since that time, leaves the Rio Grande at a point called Dona Ana, three hundred miles below Santa Fe.

On leaving this place, at an elevation of about four thousand feet above the sea, the road for three hundred miles traverses an arid prairie region, where but little wood is found except upon three ranges of mountains which stretch out to the north, but do not materially obstruct the passage of the road. They are covered for the most part with pine timber, and abound in springs of wholesome water, making it imperative upon the traveller to pass near them. Upon the route marked down, the defiles have but little elevation above the general surface, and, with the exception of a few miles of broken ground near the "Peak of Guadalupe," the ascents and descents to all the undulations are gradual and easy. At the southern extremity of the Guadalupe

* The barometrical altitude of Albuquerque above tide-water is about 5,130 feet, and of Fort Smith about 600 feet; making the difference in altitude, or total declination eastward between the two points, 4,530 feet, or an average grade of a little over 5 5-8 feet to the mile.

3. The routes to Santa Fe and return in 1849 are described briefly in the Editor's Introduction.

mountains the summit level of the country between the Rio Grande and the Pecos is attained, and from this point the surface declines to the borders of the latter stream by a gradation almost imperceptible. Crossing the Pecos, the road ascends by a grade of about five feet per mile for twenty-five miles, and the traveller here finds himself upon the broad plain of the "Llano estacado," which at this point divides the waters of the Rio Grande from those of the Colorado. The road crosses the southern spur of this plain, where it is seventy miles broad, and as firm and smooth as the best McAdamized road. Thence it crosses the head branches of the Colorado and the main Brazos, and leads off to a ridge which terminates near Fulton, Arkansas,⁴ upon the navigable waters of Red river. By leaving this ridge and crossing Red river at Preston, a good road is found to Fort Smith, upon the navigable portion of the Arkansas, which would be in a very direct course for St. Louis, and traverse one of the most productive sections of the United States.

The entire distance from Dona Ana to Fulton is about eight hundred and fifty miles, and to Fort Smith nine hundred and four miles. The road from El Paso connects at the Sierra Waco, with the one described, and is thirty miles shorter.

Dona Ana being elevated four thousand feet above the tide-water level, and Fulton and Fort Smith six hundred and sixty and six hundred respectively, gives an average grade of less than four feet to the mile over either road. These results, of course, can only be regarded as approximate estimates, which will be increased upon

4. Fulton was seriously considered as an Arkansas terminus of a railroad to California to be constructed through Texas.

the undulatory portions of the routes. The surface of the country, however, has a remarkably uniform dip to the east and south throughout nearly its whole extent, and is perhaps better adapted by nature to the reception of a railroad than almost any other which can be found.

A glance at a map of the country will show that Red river, from the point of its efflux upon the Delta of the Mississippi to Fulton, has a northerly bearing; that here it makes a sudden deflection of almost a right-angle to the west, and maintains this course to its origin in the "Llano estacado."

The road alluded to, immediately after leaving Fulton, leads to an elevated ridge, dividing the waters that flow into Red river from those of the Sulphur and Trinity, and continues upon it, with but few deviations from the direct course for El Paso and Dona Ana, to near the Brazos river, a distance of three hundred and twenty miles. This portion of the route has its locality in a country of surpassing beauty and fertility, and possesses all the requisites for attracting and sustaining a dense farming population. It is diversified with prairie and woodlands, affording a great variety of excellent timber, and is bountifully watered with numerous spring-brooks, which flow off upon either side of the ridge into the streams before mentioned. The crest of the ridge is exceedingly smooth and level, and is altogether the best natural or artificial road I have ever travelled over for the same distance.

After leaving this ridge the road crosses the Brazos near very extensive fields of bituminous coal (the only locality of this mineral, so far as my knowledge extends, that has been discovered within two hundred miles),

which burns readily with a clear flame, is made use of for fuel at Fort Belknap, and is very superior in quality.

From the Brazos the road skirts small affluents of that stream and the Colorado for two hundred miles, through a country more undulating than that east of the Brazos; but no mountains are met with, or elevated hills, which cannot be avoided by short detours.

Here and there prairies present themselves, but this section is for the most part covered with a growth of trees called mezquite, which stand at such intervals that they present much the appearance of an immense peach orchard. They are from five to ten inches in diameter, their stock about ten feet in length, and for their durable properties are admirably adapted for railway ties, and would furnish an inexhaustible amount of the very best fuel. The soil upon this section is principally a red argillaceous loam, similar in appearance to that in the Red river bottoms, which is so highly productive, and extends to near the 102d degree of longitude, or about three degrees further west than the arable soil upon some of the more northerly routes.

As this route is included within the 32nd and 34th parallels of latitude, it would never be obstructed by snow, as it seldom falls more than two or three inches in depth and only remains upon the ground a few hours at a time.

The whole surface of the country, from Red river to the Rio Grande, is covered with a dense coating of the most nutritious grass, which remains green for nine months in the year, and enables cattle to subsist the entire winter without any other forage.

It will be observed that the route here spoken of skirts the head-waters of the rivers flowing towards the Gulf of Mexico, for several hundred miles after leaving

Red river, and that a road cannot be made much further to the north without impinging upon the "Llano estacado." From what I have seen of the country south of this, I have no doubt but that a road could be made in almost any direction, but would be attended with much greater cost than upon the one I have attempted to describe, for the reason that the surface of the country along this route is much more level.

After passing the Brazos river, the road, as I have before observed, runs near the sources of the streams, where the valleys are broad and but little depressed below the general surface; whereas I have remarked that in descending some of these streams, the longitudinal and lateral valleys become deep and abrupt, and where (as would be the case with a Pacific railway) it became necessary to cross these undulations transversely, a greater expenditure of labor would be involved in grading than upon the other route. There would also be many more large streams to bridge; indeed, upon the route I have recommended, there are but two streams (the Brazos and Pecos) of greater width than forty feet, over the entire distance of eight hundred and fifty miles, between Red river and the Rio Grande.

As Fulton, El Paso, and San Diego, in California, are nearly in the same direct line, and one which intersects the longitudinal axis of the continent at right-angles, a road connecting these points would form the shortest line of communication to the Pacific in this latitude, and would pass near the valley of the Gila, or its vicinity.

The direct line of this road prolonged eastwardly from Fulton would pass through Arkansas, and intersect the Mississippi river a little below Napoleon, opposite the State of Mississippi, and would traverse

a section which presents no serious impediment to the passage of a railroad.

This route was surveyed in 1851 by Mr. Sidell (civil engineer), under the direction of the Topographical Bureau, and resulted in perfectly establishing the feasibility of the route, and the determination of the fact that the most elevated ground between Lake Providence and Fulton (a distance of two hundred miles) is but one hundred and sixty feet above the flood water-table of the Mississippi, and only one hundred feet above that of Red river.

The terminus of the eastern section of this route upon the Del Norte, could be resumed upon the west bank of that stream; and if the practicability of constructing the road down the valley of the Gila can be established, it would give a continuous line to the Colorado river.

Although our knowledge of the country west of the Rio del Norte is for the most part confined to a few traces that have been pursued by travellers making their way to the Pacific; yet it is believed that sufficient reliable data may be deduced from competent authorities to warrant the expectation of finding a route with admissible grades, as far, at least, as the Colorado.

Before reaching the waters that flow into the Pacific, it becomes necessary upon this route, as upon all others in our territory, to surmount the Rocky Mountain chain. The elevation of the crest of this continental vertebral column varies from five to seventeen thousand feet above the tide-level of the ocean, but has a declension towards its southern extremity, which greatly favors the project in question. The barometrical measurements which have been made, place "Long's Peak" in latitude $40^{\circ} 36'$ at the maximum, and the culmination of a pass

or defile in near latitude 32° at the minimum altitude.

The elevation of the eastern base of the mountains in latitude 42° is the same as the summit of the range in latitude 32° . The elevation of other passes that have been examined, vary from seven to eight thousand feet above tide.

If, so far as the economy of railway transportation is concerned, the attainment, with the locomotive, of twenty feet in altitude, is equivalent to the transit of a mile upon a horizontal plane, we would have (other conditions being equal) a difference of one hundred miles in horizontal distance in favor of the route under consideration, over one which should pass the mountains at an elevation of seven thousand feet.

The difference of elevation of the Rio del Norte in the vicinity of Dona Ana, and the crest of the mountains in latitude 32° , being about one thousand feet, and the distance between the two positions about one hundred miles, gives an average grade (which is said to be very uniform) of ten feet per mile in ascending the eastern slope of the mountains. From the summit to the mouth of the Gila, a distance of three hundred and eighty miles, the difference in altitude, barometrically determined, is four thousand seven hundred and forty-six feet, which (supposing the slope to be uniform) admits of a gradient of about twelve and a half feet to the mile in descending the Pacific side of the mountains.

The road upon this side would be much more circuitous in its course than upon the other; the grades will be increased upon the undulatory portions of the country, and some difficulty may be anticipated in passing the great canyon of the Gila, provided the road is confined exclusively to the limits of our own territory;

but a gentleman of scientific attainments, who has examined this route carefully, is of the opinion that no greater impediments will be met with upon the Gila than are found upon the Hudson river road. From the Colorado to the Pacific (unless some other pass is discovered) the road must penetrate the "Sierra Nevada" chain, through what is called "Warner's Pass."

The summit of this defile is situated north of the general course of the road, and the approaches to it, upon both sides, are somewhat tortuous. It is about one hundred miles distant from the confluence of the Gila with the Colorado, and about eighty miles from San Diego on the Pacific.

The elevation of the Pass above tide-water being three thousand and thirteen feet, and that of the Colorado, at the mouth of the Gila, two hundred and fifty-four feet, we would have an average gradation of twenty-seven and a half feet per mile in the ascent of the eastern slope, and a descent from the Pass of thirty-seven and a half feet to the mile in reaching San Diego.

Should it be found desirable, on arriving at the mouth of the Gila, to turn the course of the road, and run it down the valley of the Colorado to the head of the Gulf of California, I am informed by persons who have examined this section that the surface is free from obstructions, and the distance to Adair bay (where four fathoms of water may be relied upon at ebb-tide) is about eighty miles.

I am sir,

Very respectfully,

Your obedient servant,

RANDOLPH B. MARCY,
Captain 5th Infantry, U. S. Army.

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